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Contingency Contractor Optimization Phase 3 Sustainment, Verification and Validation (V&V) Report Contingency Contractor Optimization Tool - Prototype

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**Contingency Contractor Optimization
Phase 3 Sustainment, Verification and Validation
(V&V) Report
Contingency Contractor Optimization Tool –
Prototype**

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1. INTRODUCTION

The reports and test plans contained within this document serve as supporting materials to the activities listed within the “Contingency Contractor Optimization Tool – Prototype (CCOT-P) Verification & Validation Plan” [1]. The activities included test development, testing, peer reviews, and expert reviews. The engineering prototype reviews were done for both the software and the mathematical model used in CCOT-P.

Section 2 includes the peer and expert review reports, which summarize the findings from each of the reviews and document the resolution of any issues. Section 3 details the test plans that were followed for functional testing of the application through the interface. Section 4 describes the unit tests that were run on the code.

2. PEER AND EXPERT REVIEW REPORTS

CCOT-P Core and Uncertainty Conceptual Model Expert Review (PR2, done as an expert review rather than peer review)

Materials for Review:

Material	Version	Author
Contingency Contractor Optimization Phase 3, Model Description and Formulation	FINAL v 1.0	None listed

Reviewer(s):

Name and Organization	Contact Information	Expertise/Skills
Peter Loucks, Cornell University	Contact Sandia	Professor at Cornell University with expertise in operations research, systems analysis.

Review Metrics:

# of Issues Identified	2
Dates of Review	09/08/13

Issue Resolution:

Issue Description	Issue Tracking Number	Resolution
Simple example problems and solutions could be shown to make it easier for the reader to understand	N/A	Relying on other accompanying documentation to serve as example problems if needed (user manual, etc.)
On p.7 – would argue that simulation models are also rigorous, consistent, and tractable. However, fully agree with use of optimization for this project.	N/A	Not addressed, since this was more of a preference than a correction.
Uncertainty of the supply portion of the model (Just how effective will personnel be? Is there uncertainty	N/A	Good points, but out of the scope of this tool.

in their availability, i.e., when they can start and when they will finish as opposed to when they should finish, and uncertainty as to how efficient they are? Uncertainty could be reduced by assigning more people to a work element, but is there a limit on how many people a work element can have (due to say limited desk space, trucks, tanks, or other needed resources?). Is there an upper bound on bodies? Is there a tradeoff permitted between number of people and time to do the job?		
On p. 7 – what happens if the budget is constrained to be less than the minimum value of the budget objective? What compensates for such situations or does it become infeasible?	N/A	The personnel overages account for any people who have to be used beyond available budget.
Model Notation chapter seems out of place – would suggest placing at the end before the conclusions.	N/A	Not addressed, since this was more of a preference than a correction.
On page 16, suggest using “expression” rather than “equation” for inequalities.	N/A	Incorporated change into document.
Change Mathematical Formulation to Model Description	N/A	Changed name of section 4 to “Model Formulation” since “Model Description was already used for section 2.

Notes:

- The model focuses on the entire mix of Department of Defense (military and civilian) and other people needed to meet a military objective. It goes beyond what is asked for, and thus provides additional value. An additional feature of the model is identification of the effect of demand uncertainty in mission requirements.
- Lots of jargon used, so strive for clarity and simplicity where possible.

CCOT-P Database Design Peer Review (PR3)

Materials for Review:

Material	Version	Author
CCOT-P Database	OCS_M2W_Test on ORCA-SRN- DB\QUAL	Nathan Martin Justin Durfee

Reviewer(s):

Name	Project Roles and/or Skills
Donald Shirah	Independent Database Reviewer

Review Metrics:

Total Person-Hours	4 hours
# of Issues Identified	0 (by final review)
Dates of Review	4/9/2013 (initial) and 8/14/2013 (final)

Process for Review:

When validating a database design, the individual tables were reviewed first. Review of each table for consistent naming and data types that match the implied use specified by the column name was completed. The second step was to review the primary key to ensure that an appropriate natural or surrogate key has been selected. If a natural key was used then a check for constraint conflicts such as duplicate keys was done. After reviewing the primary key the reviewer checked that the columns in the table relate back to the key and belong in the table instead of their own table. After the individual tables have been reviewed, the reviewer created an entity relationship diagram (ERD) and examined for proper relationships between the tables, with appropriate foreign keys being specified. Tables not relating to any other tables were flagged for review and possible removal from the database.

Notes from the reviewer:

- Use of Primary keys: Tables have Primary Keys on what appears to be the appropriate fields.
- Use of Foreign keys: Tables have a defined relationship within the structure of the database.
- Overall I find the database to be designed within applicable best practices.
- Created an Entity Relationship Diagram (ERD) detailing the database structure with all tables included in the review. (file - Shirah CCOT ERD.pdf)

CCOT-P Software Design and Implementation Peer Review (PR4, PR5)

Materials for Review:

Material	Version	Authors
CCOT-P	V2.0 Release Candidate	Nathan Martin Justin Durfee

Supplemental Materials:

Material	Version	Primary Author
Requirements Documents	Sharepoint	Katherine Jones
Help Documents	Sharepoint	Alisa Bandlow
CCOT-P Java Documentation	V2.0 Release Candidate	Nathan Martin Justin Durfee
Architecture Overview Slides	N/A	Justin Durfee

Reviewer(s):

Name	Contact Information	Project Roles and/or Skills
John Hellier	jhhelli@sandia.gov	Web Applications
Nicholas Pattengale	ndpatte@sandia.gov	Web Applications

Review Dates and Times:

Date	Start & End Times	Time in hours (e.g. 2.75)
9/17/2013	2:00pm-4:00pm	2

Notes:

Items Reviewed:

- Overall Application Architecture
- Implementation
- Areas of Concern

Issues Identified (and to be entered into Issue Tracking):

Issue Description	Reference (if any)	Issue Tracking Number
Arrow on table column headers permits user to hide columns	Unintended	artf96335

Review Notes and/or Follow-up Items:

Description	Follow-up Required?
Add checks for all TextFields to prevent going beyond a maximum length and undefined application behavior.	No
Have more user testing sessions, even with volunteers unfamiliar with domain. Great way to catch more basic bugs.	No
Simulate database capacity issues by adding a lot of dummy data. Observe effects on queries and application performance.	No
Observe network load and possible effects on system, particularly with the possibility of geographically separated users. Has not shown to be a limiting factor, but has not been specifically studied.	No
Explore possibility of distributing solve process among more servers and/or threads in future, if user load warrants.	No
Study the effects of multiple simultaneous users. Up to now, no more than 1-3 users at any given time. Concurrency testing was entered as a task, but time did not permit.	Yes, run a concurrency test
In future development, design data objects with peculiarities of Hibernate and GWT in mind to	No

reduce number of duplicate classes needed for serialized communication between clients and servers.	
Data “history” – While we keep solved model runs, we don’t actually have a way to keep a history of the state of the database. Should we have a user-friendly way to periodically archive current records and offload them to reduce database size?	No
Testing: Good manual test of functionality, but should test the system’s failure modes (database server goes down, etc.)	Yes
Testing: Should look into something like Selenium in the future for automated testing, but carries a large initial overhead to integrate	No
Overall, software structure agrees with desired design and functionality, but emerging requirements, learning curve for web development, and aggressive timeline impacted overall design.	No
Need to update documents to capture design decisions and lessons learned while experiences are still fresh.	Yes
Testing in other browsers: While system designed for Firefox, we should check its functionality in other browsers, document issues, and see if there are simple fixes for these. Possibly use Firebug and/or Chrome tools to see if page/script errors are occurring.	No
Security issues – Javascript/SQL injection? Likely will be explored during web scans and accreditation.	No
UI Text: Mostly hardcoded and somewhat redundant in places. Probably would have been better to put in database, text files, property files, etc.; currently have to rebuild for most text changes. Do we need to worry about Internationalization? Likely unnecessary with current customer base.	No

Solver: Can we put in values that don't produce a solution or crash the solver? Haven't studied in-depth. Do we have prepopulated default values? We think so, but should verify.	No
Results: Current displayed in charts on the web app. Likely that a customer will want some sort of printable report in the future.	No
May want to look into some sort of "Loading..." notice while results pages are being rendered. Currently this happens while GXT is tendering. Javascript provides hooks, but not sure if GXT has a mechanism for it. Seems to be a function of large data sets, as didn't present issues with monthly resolution.	No

CCOT-P Output Data Consistency Peer Review (PR6)

Materials for Review:

Material	Version	Author
Analysis outputs	239	Martin, Nathan Durfee, Justin

Supplemental Materials:

Material	Version	Primary Author
----------	---------	----------------

Reviewer(s):

Name	Contact Information	Project Roles and/or Skills
Tom Brounstein	trbroun@sandia.gov	Lead tester for development of tool

Review Dates and Times:

Date	Start & End Times	Time in hours (e.g. 2.75)
9/10/13	10:30	.5
Total Hours		.5 hours

Review Metrics:

Total Person-Hours	.5 hours
# of Issues Identified	0
Dates of Review	9/10/13

Notes:

Two main areas of the tool were tested for consistency. The first was to ensure that the data in the output charts 3, 4, 5, and 6 was the same. These charts represent the same information, but presented in different ways (allowing the user to filter it differently). For this problem,

reviewers looked at the capability “Force Application” and personnel group “Military – Active” across all four charts. Additionally, “Force Support” with the personnel group “Military – Active” was analyzed for charts 3, 4, and 6.

The second area to examine was to ensure the pie charts in the first and last chart are consistent and match the results for the tab “Contractor Ratios” in the Annex W. All the possible pie charts were examined in this case.

All the testing was done on model run 13.

Review Notes and/or Follow-up Items:

Description	Reference or Person Contacted (if any)	Follow-up Required?
Verified the information in charts 3, 4, 5, and 6 are consistent		None
Verified the information in charts 1 and 7 is consistent		None
The data in the annex W was similar (at most, 0.02 off) of the data in charts 1 and 7, but not always consistent. This is most likely due to back end rounding errors when generating the charts, but is still notable. The differences, however, are insignificant.	Martin, Nathan	None

CCOT-P Integration, Requirements, and Acceptance Tests Peer Review (PR7)

Materials for Review:

Material	Version	Author
Administrator Test Plan	Months2Weeks 1.0	Alisa Bandlow
Planning Manager Test Plan		Tom Brounstein
Analyst Test Plan		

Reviewer(s):

Name	Project Roles and/or Skills
Katherine Jones	Interface with customer and users, Technical Lead
Justin Durfee	Software Lead
Jared Gearhart	Modeling Lead

Review Metrics:

Total Person-Hours	3
# of Issues Identified	3
Dates of Review	10/04/13 (final review)

Issue Resolution:

Issue Description	Issue Tracking Number	Resolution
Need a test of the Help link on all three roles	N/A	Test has been added to all 3 test plans
No forced failures (e.g. unplug it partway through)	artf98212	Added to issue tracker as a low priority item. Likely will not be addressed.
Need a test of the cleanup tool in the admin role	N/A	Test of the cleanup tool has been added to the test plans.

Notes:

- Administrator test plan is adequate because it checks propagation through the other roles
- Data validity tests should be included wherever possible
- Could do some boundary, extreme testing for uncertainty to better determine the limits
- Sampling test spreadsheet has cases that catch everything we can think of
- Unit tests need a high level description document (now created)

CCOT-P Outputs Expert Review (ER1)

Materials for Review:

Material	Version	Author
User Interface – Analyst	Months	CCOT-P Team

Supplemental Materials:

Material	Version	Primary Author
User Manual	Months	Alisa Bandlow

Reviewer(s):

Name and Organization	Expertise/Skills	Review Time in hours
Richard Sullivan, USSOUTHCOM JCASO Planner	Intended user	2
Rafael Gavilan, USSOUTHCOM JCASO Planner	Intended user	2
Total Review Time		4 hours

Review Dates and Times:

Date	Time in hours (e.g. 2.75)
04/30/2013	4
Total Hours	4

Review Process and Results:

First, simple usability testing was done. Users were given a simple list of tasks to complete:

- Find analysis 17 on the homepage.
 - o Successfully located the analysis though they had to dig through the drill-down arrows to locate it.
- Find the results section for analysis 17.
 - o Successfully located this page, though it took a few seconds to locate the results tab.
- Return to the home page.

- Clicked the browser back button and had to log back into the application.
- Create a new analysis from existing analysis 14.
 - We did not say branch in the instructions but Raphael figured out how to do this anyway. Completed successfully with no issues.
- Change local-nation contractor cost.
 - Went right to the correct page. They did not understand what the cost represented (annual, monthly, dollars, thousands of dollars, etc.).
 - Referred them to the instructions which clarified the confusion.
- Change the efficiency level.
 - Completed successfully with no issues.
- While navigating the tool they asked if they had to save changes then immediately found the save button.
- Add a policy so that contractors can't be used in Ft. Nasrid.
 - Required a few seconds to get acquainted with the screen then successfully added a policy.
- Run the model.
 - Successfully ran a model.
- Compare results of this analysis with the results of analysis 17.
 - Went to the comparison page and successfully selected analysis 17.
 - They did not understand why they saw analysis 48 (the current analysis) in addition to analysis 17. Since they did not enter a description for the analysis "null" was displayed. This may have added to the confusion, however, since we only show the analysis ID on a few pages.
 - Look up assignments by personnel group for logistics.
 - Successfully completed the task.

Next, users were walked through the outputs of the model and asked to comment on relevance.

Issue Resolution:

Issue Description	Resolution
Input issue: Planners use the term "branch plan," so branch as used in the tool may be confusing.	Not addressed. Other users did not indicate an issue, so the terminology was left in the prototype tool.
Required versus available chart may give the impression that there aren't enough military.	Not addressed – one user was going to follow up with an alternative suggestion but it was not provided.
Make it more obvious when a chart is just for output.	Addressed via instructions.
Budget may not be useful	Budgets made optional.

Weeks are a better resolution than months	Switched to weeks.
Would like help turning the outputs into recommended actions	Partially addressed through language in the user manual.

Notes:

The Annex W output is a positive improvement and the current implementation of that would be useful.

CCOT-P Usability and User Manual Training Expert Review (ER2)

Materials for Review:

Material	Version	Author
User Interface – Planning Manager	https://orca-temp2.sandia.gov:1443/CCOT_M2W_Test/	
Quick Start Guide	CCOT_QuickStart_Guide_ver2_Months2Weeks	Alisa Bandlow
User Manual	CCOT_UserManual_ver2_Months2Weeks	Alisa Bandlow

Supplemental Materials:

Material	Version	Primary Author
n/a		

Reviewer(s):

Name and Organization	Contact Information	Expertise/Skills	Preparation Time in hours
Alisa Bandlow, 6131	abandlo@sandia.gov	Dev Team Usability Lead	4
Tameka Huff, 6925	tcbarre@sandia.gov 505-844-2878	Human Computer Interaction	.5 hour
Total Prep Time			4.5 hours

Review Dates and Times:

Date	Start & End Times	Time in hours (e.g. 2.75)
9/9/2013	2:30 PM to 5:30 PM	3.00
9/11/2013	3:00 PM to 5:30 PM	2.50
9/12/2013	9:00 AM to 1:00 PM	4.00
	2:00 PM to 4:30 PM	2.50
Total Hours		12 hours

Issue Log

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
1.	<p>Add more introduction text to section 1.3. The manual and the quick user guide give an overview of the project and then jumps to explaining Planning Baseline and Mission Scenarios. Example intro text would be: “To begin planning, a planning baseline must be created” OR “The CCOT-P allows users to create a planning baseline and mission scenarios...” The planning baseline and mission scenario definitions made more sense to me when put in context with the purpose of the CCOT-P. I also like explaining mission scenario before planning baseline. See example descriptions below:</p> <p>The Contingency Contractor Optimization Tool Prototype determines the optimal workforce mix (military, DoD civilians, contractors) that minimizes total cost for selected mission scenarios.</p> <p>A mission scenario represents a single mission, ranging from disaster relief and humanitarian assistance to a major combat operation. The mission scenario in CCOT-P is focused on the manpower requirements by phase needed to implement the mission. Using the manpower requirements, policies, and risk settings, CCOT-P will calculate an optimized workforce mix to support the mission.</p> <p>A planning baseline is a group of mission scenarios that analysts consider in when planning the manpower</p>	Quick User Guide and User Manual	QUG, Pg. 8, Section 1.3; UM, Pg. 9, Section 1.3	1

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
	requirements needed to complete the mission.			
2.	Redundant descriptions of planning baseline and mission scenarios. These terms are defined in section 1.3, section 2, and section 2.1. Section 1.3 and section 2.1 are titled exactly the same. Change section 2.1 to “Creating a Planning Baseline and Mission Scenarios” and remove the redundant introduction text.	User Manual	Pgs. 9, 13, 14.	2
3.	Update figure 4 on page 14 of the Quick Start Guide because the “Add Mission Scenario” and “Save Changes” buttons are different within the application.	Quick Start Guide	Pg. 14, Figure 4	34
4.	What does “Percent plus up” mean in the sentence: “The first row is the support planning factors (percent “plus up”)?” My guess is that it means percentages are rounded up and I think using that wording is clearer.	Quick Start Guide	Pg. 15, #2 of section 2.3	3
5.	Add a space by changing “Example1” to “Example 1.”	Quick Start Guide	Pg. 16, #3 of section 2.3, ii of letter d	4
6.	Add information about being able to choose the date by selecting the left/right arrows. The user can click the left and right arrows to move forward or backward a month.	Quick start guide	Pg. 16, section 3	5
7.	Add a note that the user can tab to enter phases.	Quick Start Guide	Pg. 16, section 3, last bullet	6
8.	Change “(phases 0-V)” to “(phases 0-1)” to be consistent between the guide and the application.	Quick Start Guide	Pg. 16, section 3	7
9.	Is there significance to the phases? Why are there only 6 etc.? Add more information about the phases. Represents the 6 phases of operations which is a DOD construct.	Quick Start Guide	Pg. 16, section 3, last bullet	n/a
10.	The figures throughout the guide are numbered or lettered. The references	Quick Start Guide	Pg. 13, Figure 3 and Pg. 14,	35

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
	will state see step 1 or see step A. It may be better to be consistent. It may be better to use lettering so the user does not confuse the numbering of sections with the numbering of the steps in the figures. There were times where I thought the number of the step in the section corresponded to the numbering in the figure and that was not the case.		figure 4-5	
11.	Change “set the default values on each of the remaining pages (step 1 in Figure 7)” to be more specific to the “Budget and Costs” page.	Quick Start Guide	Pg. 15, #1 of Section 2.3	36
12.	Change the title “Manpower Requirements & Substitutions” to match the title on the page: “Manpower Substitutions and Requirements.” The graphic needs to be changed as well. The page title includes the ampersand.	Quick Start Guide	Pg. 15, #2 of Section 2.3	n/a
13.	There is only a description for the “additional support requirements” and not any of the other sections on this page such as “manpower substitution rules” and “manpower requirements.” Add a brief description of each section of the “Manpower Substitutions & Requirements” page.	Quick Start Guide	Pg. 15, #2 of Section 2.3	36
14.	The guide only calls out the following pages: “Manpower Requirements & Substitutions,” “Manpower Availability & Phase Durations,” and “Finish.” There are other pages that are not mentioned. It is not clear as to why only these pages are mentioned. Add information for each page and section of the page. If these sections do not need to be called out because they are not necessary for a “quick start guide” then make it clear why the user does not need to fill out these sections of the tool.	Quick Start Guide	Pgs. 15-17, Section 2.3	36
15.	Add a description for “Manpower Availability”	Quick Start Guide	Pg. 16, #3 of Section 2.3	36
16.	There is no description for “Policies	Quick Start Guide	Pg. 15-17,	36

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
	and guidance”		Section 2.3	
17.	There is no description for “Risk in Using Non-Military personnel”	Quick Start Guide	Pg. 15-17, Section 2.3	36
18.	Figure 11 has red-lined changes. Make sure this is the final copy of this figure for the document.	Quick Start Guide	Pg. 18, Figure 11	32
19.	Add a description of what is being displayed on the “Planning Baselines” page such as the table. Explain the table and the columns. For example, what happens when the user checks the “display” checkbox?	User Manual	Pg. 14, Section 2.1	38
20.	How do you contact an administrator? How do you know who is the administrator? Include this information in the user manual. Administrator role not yet assigned. Will be someone at DoD.	User Manual	Pg. 16, #5 of Section 2.1.1	n/a
21.	Is there a description of the page contents for each screen? Add a brief description of each page and what the user can do on each page. This would be an introduction to each page.	User manual	Pg. 16, Section 2.1.1	8
22.	Put the steps in the manual in the same order as the steps on the screen. For the “Mission Scenarios” page, the user should enter a title and then be given instructions on how to add mission scenarios. Move the “Adding an Existing Mission Scenario” to be after the step to enter a title. To be consistent with this section, it should look like the following: “ Mission Scenarios: See section 2.1.2. Adding an Existing Mission Scenario.”	User Manual	Pg. 16, Section 2.1.1, under “Page: Mission Scenarios”	9
23.	Update figure 6 because the “Add Mission Scenario” and “Save Changes” buttons are different within the application.	User Manual	Pg. 17, Figure 6	34
24.	The instruction in the manual says that ...the “Display?” checkbox will be disabled, but the display checkbox was not disabled after mission scenarios	User manual	Pg. 17, #7 of the “Page: Mission	10

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
	were added. Change this sentence in the manual or fix the application so that the “Display?” checkbox is disabled when the user adds a mission scenario.		Scenarios.”	
25.	The instruction says, “you must now review and set the default values for the mission scenario(s).” Is this done by filling out the remainder of the screens? If so, add a little more instruction as to how the user can change the default values of the mission scenarios.	User manual	Pg. 17, #7 of the “Page: Mission Scenarios.”	11
26.	“Set the default annual budget for each fiscal year in millions of dollars,” should be changed to “Set the default annual budget for each fiscal year in thousands of dollars.	User manual	Pg. 18, #9 of the “Budget & Costs” section	12
27.	I do not see a checkbox for “No budget constraints.” Possibly remove this information from the manual.	User manual	Pg. 18, 9a of the “Budget & Costs” section	13
28.	At first I didn’t understand “other costs.” Add a parenthetical note that other costs are military-active, military-reserve etc.	User manual	Pg. 18, #10 of the “Budget & Costs” section.	14
29.	Do we need to give a description of local nation and third country national contractors? Is there a place where users can get a description of the personnel groups? These are DoD terms and users are expected to be familiar with these terms.	User manual	Pg. 18, #12 of the “Page: Manpower Substitutions & Requirements.”	n/a
30.	Give an example of “other values.”	User manual	Pg. 18, #12 of the “Page: Manpower Substitutions & Requirements.”	15
31.	Since this is the first mention of the TPFDD, it should be spelled out.	User manual	Pg. 18, #13 of the “Page: Manpower Substitutions & Requirements.”	16

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
			”	
32.	Add a note to the actual interface that the “Manpower Requirements table is view-only.” It is hard to distinguish which tables are editable or not in the tool.	User Interface – Manpower Substitutions & Requirements	User Interface – Manpower Substitutions & Requirements	Teamfor ge Issue artf96207
33.	Remove the second “to” in the “Additional Support Needs” section. It currently reads: This table allows you to add additional support requirements (in FTEs) by base and by operational phase.	User manual	Pg. 18, #14 of the “Page: Manpower Substitutions & Requirements.”	17
34.	What does “Percent plus up” mean in the sentence: “The first row is the support planning factors (percent “plus up”)?” My guess is that it means percentages are rounded up and I think using that wording is clearer.	User manual	Pg. 18, #14 of section “Page: Manpower Substitutions & Requirements.”	3
35.	“Additional support is calculated as shown in figure 8.” Is that the JCA totals in the tool? If so, explain JCA and make a reference that the user can find the additional support total in that column.	User manual	Pg. 18, #14 of section “Page: Manpower Substitutions & Requirements.”	18
36.	This is the first time that TCN and LN are used as acronyms in the document so state what they stand for.	User manual	Pg. 19	19
37.	Add more instruction that tells the user how to add a policy. “Select the policies you want to add by clicking the checkbox in the “Add” column.”	User manual	Pg. 20, #16 of “Manpower Availability & Phase Durations.”	20
38.	Change “(phases 0-V)” to “(phases 0-1)” to be consistent between the manual and the application.	User manual	Pg. 19, #17 of “Manpower Availability & Phase Durations.”	7
39.	Add information about being able to choose the date by selecting the arrows. The user can click the left and right arrows to move forward or backward a	User manual	Pg. 19, #17 of “Manpower Availability & Phase	5

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
	month within the current year.		Durations.”	
40.	Change “click add” to “click add selected policies.”	User manual	Pg. 20, #19 of the “Policies & Guidance” section.	21
41.	Describe what the “Policy Selection” table is displaying. For example, what do the yes and no mean in the table? What do the colors (green, pink and red) mean?	User manual	Pg. 20, #19 of the “Policies & Guidance” section.	22
42.	Do the colors, green, pink and red mean anything on the “Policies and Guidelines” page? If so, consider a legend on the page.	User interface – Policies and Guidelines	User interface – Policies and Guidelines	Teamforge issue artf96209
43.	Is there a description for what each operational risk means? If so, add this information here. Levels of risk were provided by the customers. Clear definitions were not provided.	User manual	Pg. 20, #23 of the “Risk in Using Non-Military Personnel” section.	n/a
44.	Add mission scenario button is now at the top and not at the bottom. Update graphic.	Quick user guide	Pg. 19, figure 12	34
45.	The guide ends with the “scenario creation tab” and then jumps to section 2.3.1 importing a TPFDD or TPFDD-like data set. There is no mention of the other tabs or data that needs to be entered. The expectation is that the guide will follow the order of screens in the application.	Quick user guide	Pg. 20, #3 of Section 2.4	36
46.	Check the numbering of this section. Sub-sections 2.3.1-2.3.3 are under section 2.4.	Quick user guide	Pg. 20, section 2.3.1	37
47.	Consider changing the button label, “Done – add bases and requirements.” There is a step in the guide that says “add additional bases as needed,” so I thought hitting the “Done” button would allow me to do that next step since the button says “add bases and requirements.” Change the button to	User Interface - Manually Enter Manpower Requirements dialog window	User Interface - Manually Enter Manpower Requirements dialog window	Teamforge issue artf96210

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
	"Done."			
48.	<p>"Click the continue button on each screen to advance to the next page." I'm expecting for this guide to mention all of the tabs. Maybe this should be changed to "Enter all the data for the following screens: XXXXXX. Click the continue button on each screen to advance to the next page.</p> <p>It is not clear the reason behind mentioning some sections and not others. My guess is because it is a "quick" guide you want to not include everything and some pages need more explanation than others. If this is the case, I think it is fine to just list out the screens that the user will encounter.</p>	Quick user guide	Pg. 23, #2 of section 2.3.3 Adding Additional Support Needs.	36
49.	Figure 19 has red-lined changes. Make sure this is the final copy of this figure for the document.	Quick user guide	Pg. 24, figure 19	33
50.	Change the reference to the "Complete" button to "Complete – Make this baseline available to Analysts."	User Manual	Pg. 21, #27 of the "Page: Finish" section.	23
51.	Fix the reference error: "Error! Reference source not found."	User manual	Pg. 21, #3 of Section 2.1.3	24
52.	Figure 12 has red-lined changes. Make sure this is the final copy of the figure for the document.	User manual	Pg. 23, Figure 12	32
53.	Figure 13 has red-lined changes. Make sure this is the final copy of the figure for the document.	User Manual	Pg. 24, figure 13	33
54.	Add mission scenario button is now at the top and not at the bottom. Update graphic.	User Manual	Pg. 24, Figure 16	34
55.	Add more description to the Phase Durations section of the "Manpower Substitutions and Requirements" section. Explain the start and end day and explain what happens to the next phase start day when and end day is entered for the previous phase (it	User manual	Pg. 28, #14 of the "Page: Manpower Substitutions & Requirements" section.	25

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
	automatically updates the start day).			
56.	What does “Percent plus up” mean in the sentence: “The first row is the support planning factors (percent “plus up”)?” My guess is that it means percentages are rounded up and I think using that wording is clearer.	User manual	Pg. 30, #17b of the “Page: Manpower Substitutions & Requirements” section.	3
57.	Add another sub-bullet to the Phase Durations, “Click in a phase’s cell and enter the number of weeks that each phase will last. “	User manual	Pg. 31, #19 of the “Phase: Phase Durations” section.	26
58.	Add a note to the user that they may have to click the folder to expand the mission scenarios. Currently the “Add Policy” button is not displaying until the user expands the folder.	User manual	Pg. 31, #20 of the “Page: Policies & Guidance” section.	27
59.	Change wording to “Add selected policies” instead of “Add.”	User manual	Pg. 31, letter d of the “Page: Policy & Guidance” section.	21
60.	Remove the “Manpower Business Rules” section because this section is not located on the “Policies and Guidance” page.	User manual	Pg. 31, #22 of the “Page: Policies & Guidelines” section.	28
61.	Add information about “expanding” the mission folder.	User manual	Pg. 31, #24 of the “Risk in Using Non-Military Personnel”	29
62.	Add information on the types of operational risks (i.e. extreme, high, medium, low). Add explanation in case the user does not know how to choose. Levels of risk were provided by the customers. Clear definitions were not provided.	User manual	Pg. 31, #24 of “page: Risk in Using Non-Military Personnel.”	n/a
63.	Add the entire button label to the “complete”. Use “Complete: make this mission scenario available to analysts”	User manual	Pg. 32, #29 of the “Page:	30

Auto Number	Issue Description	Reference	Location (e.g., page & paragraph)	Issue Tracking Number
	instead of “Complete?”		Finish.”	
64.	Revise the statement “Policies cannot no longer be modified.” It contains a double negative which makes the statement not clear.	User manual	Pg. 32, 4b of section 2.2	31
65.	Define “other costs.”	User manual	Pg. 38, #11 of the “Page: Budget & Cost” section.	14

Comments

1. Are the definitions of the roles clear? Is the delegation of activities among the three roles clear?

Yes, the three roles are clear and it is clear when you would use the following rules.

2. Are the explanations of planning baselines, mission scenarios and analyses clear?

The explanation of planning baseline and mission scenario is clear when put in context with the purpose of the CCOT-P tool.

The Contingency Contractor Optimization Tool Prototype determines the optimal workforce mix (military, DoD civilians, contractors) that minimizes total cost for selected mission scenarios.

A mission scenario represents a single mission, ranging from disaster relief and humanitarian assistance to a major combat operation. The mission scenario in CCOT-P is focused on the manpower requirements by phase needed to implement the mission. Using the manpower requirements, policies, and risk settings, CCOT-P will calculate an optimized workforce mix to support the mission.

A planning baseline is a group of mission scenarios that analysts consider in when planning the manpower requirements needed to complete the mission.

I would consider switching the order of the definition of mission scenario and planning baseline.

Quick Start Guide Comments

The quick user guide still seems too much like the user manual. If possible, I think it would be better to give a brief introduction to every page in the tool and then list out the steps the user should take to complete each page.

3. FUNCTIONAL TEST PLANS

There are three roles in the CCOT-P application: the administrator, the planning manager, and the analyst. Test plans were developed for all three of these roles to test the functionality of each page within the tool. These test plans match CCOT-P Release 2.3.

Administrator Test Plan

Preset Baseline Values

Annual Cost (except LN/TCN contractors), Manpower Substitution Rules (except LN/TCN contractors) and Manpower Business Rules table values are only modifiable by the Administrator. At the time of creation, a new planning baseline will use the values that exist in these tables. Changes to these values will not impact existing planning baselines.

Download the worksheet template and create a copy for your test. Record your test progress in the test worksheet. Remember to record whether this test is for the Quality (qual) or Production (prod) environment and the URL used for the test. Steps marked with an asterisk (*) need to be recorded for Pass/Fail in the worksheet.

The following tests are meant to be completed in sequential order.

All test values are notional.

Web browser

This test should be performed using the Internet Explorer browser. Quirks of the interface in IE will be documented in the user manual.

At the beginning of testing, clear the browser's cache. You may also wish to clear the cache after 2-3 hours of constant testing.

Clearing the cache in Internet Explorer

Internet Explorer 10 and 11

1. Click ALT-X
2. Safety -> Delete Browsing History
3. At a minimum, the following should be checked:
 - a. Preserve Favorites website data
 - b. Temporary Internet files and website files
 - c. Cookies and website data
4. Click Delete

Internet Explorer 8 and 9

1. Click Tools, and select Delete Browsing History... .
2. Deselect Preserve Favorites website data, and select Temporary Internet files, Cookies, and History.
3. Click Delete.

Test 1: Modify Admin values

1. Login as Administrator.
2. Make a record of the existing values in the tables (if different from Tables 1-3 in the worksheet).
3. *Change some values in each of the tables. Record your changes in Tables 1-3 in the worksheet.

Test 2: Check for new values in a new planning baseline

1. Login as Planning Manager.
2. *Create a new planning baseline.
3. *Add two mission scenarios to the new planning baseline.
 - a. *Add one existing mission scenario.
 - b. *Create a new mission scenario¹ (to completion).
 - c. *Check that your new values (modified in Test 1, Step 3) are reflected in the new planning baseline/mission scenarios.
 - i. *Budget & Costs tab: Annual Cost table
 - ii. *Manpower Substitutions: Manpower Substitution Rules table
 - iii. *Policies & Guidance tab: Manpower Business Rules table
4. Make the planning baseline public.
5. *On the main page, check that the status of your new baseline says Public.
6. If the Display? box is not checked, check the box.

Test 3: Check that new values ARE NOT reflected in an existing planning baseline

1. Select an existing DRAFT planning baseline (that doesn't have many scenarios).
2. *Review the values to ensure the old values (recorded in Test 1, Step 2) haven't changed.
 - a. *Budget & Costs tab: Annual Cost table
 - b. *Manpower Substitutions: Manpower Substitution Rules table
 - c. *Policies & Guidance tab: Manpower Business Rules table
3. *Add two mission scenarios to the existing planning baseline.
 - a. *Add one existing mission scenario.
 - b. *Create a new mission scenario² (to completion – just use the default values).
 - c. *Check that the old values (recorded in Test 1, Step 2) are reflected in the planning baseline and mission scenarios.
 - i. *Budget & Costs tab: Annual Cost table
 - ii. *Manpower Substitutions: Manpower Substitution Rules table
 - iii. *Policies & Guidance tab: Manpower Business Rules table
4. Make the planning baseline public.
5. *On the main page, check that the status of your new baseline says Public.
6. If the Display? box is not checked, check the box.

Test 4: Check for new values as an Analyst

1. Login as Analyst.
2. *Create a new analysis for the new planning baseline from Test 2.
3. *Check that the new values (modified in Test 1, Step 3) are still reflected in the mission scenarios.
 - a. *Budget & Costs tab: Annual Cost table

¹ Demo TPFDDs are provided in the Excel file SNL_CCOTP_Phase3Ext_2Site_Test_TPFDD.xlsx

² Demo TPFDDs are provided in the Excel file SNL_CCOTP_Phase3Ext_2Site_Test_TPFDD.xlsx

- b. *Manpower Substitutions: Manpower Substitution Rules table
- c. *Policies & Guidance tab: Manpower Business Rules table

Test 5: Check for the old values as an Analyst

1. *Create a new analysis for the planning baseline from Test 3.
2. Check that the old values are still reflected in the mission scenarios.
 - a. *Budget & Costs tab: Annual Cost table
 - b. *Manpower Substitutions: Manpower Substitution Rules table
 - c. *Policies & Guidance tab: Manpower Business Rules table

Test 6: Check existing analyses

1. Randomly select three existing analyses for *FY 2012 Q1 Baseline* and record them in Table 3 of the worksheet.
2. *Check that the old values (from Test 1, Step 2) are still reflected in the analyses.
 - a. *Analysis 1
 - i. *Budget & Costs tab: Annual Cost table
 - ii. *Manpower Substitutions: Manpower Substitution Rules table
 - iii. *Policies & Guidance tab: Manpower Business Rules table
 - b. *Analysis 2
 - i. *Budget & Costs tab: Annual Cost table
 - ii. *Manpower Substitutions: Manpower Substitution Rules table
 - iii. *Policies & Guidance tab: Manpower Business Rules table
 - c. *Analysis 3
 - i. *Budget & Costs tab: Annual Cost table
 - ii. *Manpower Substitutions & Requirements: Manpower Substitution Rules table
 - iii. *Policies & Guidance tab: Manpower Business Rules table

Test 7: Revert Admin values

1. Login as Administrator.
2. Return the changed values back to their original values (recorded in Test 1, step 2).
3. Log out.
4. Login as Administrator.
5. *Check that the values are back to their original values.
 - a. *Annual Cost table
 - b. *Manpower Substitution Rules table
 - c. *Manpower Business Rules table

Test 8: Testing interface in different screen resolutions

The goal of this test is to ensure that the web interface renders correctly at different screen resolutions. Only check the Administrator screens for this test.

1. **Current monitor resolution**
2. *Record your current screen resolution in the worksheet in the Comments column. This will probably be a resolution around 1280 x 1024 (may be slightly higher or lower).
3. Make the browser fill the entire monitor.
4. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - a. *Login Roles
 - b. *Preset Baseline Values
5. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.

- a. *Login Roles
 - b. *Preset Baseline Values
6. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - a. *Login Roles
 - b. *Preset Baseline Values
7. **1024 x 768 test**
8. Change the screen resolution on your monitor to 1024 x 768.
9. Make the browser fill the entire monitor.
10. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar may appear at the bottom of the screen to make the entire screen viewable.
 - a. *Login Roles
 - b. *Preset Baseline Values
11. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - a. *Login Roles
 - b. *Preset Baseline Values
12. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - a. *Login Roles
 - b. *Preset Baseline Values
13. **800 x 600 test**
14. Change the screen resolution on your monitor to 800 x 600.
15. Make the browser fill the entire monitor.
16. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - a. *Login Roles
 - b. *Preset Baseline Values

Test 9: Check the Tool Clean Up Feature

Note: To verify that the flagged analyses are actually deleted, someone will need to check the database.

1. Go to the Tool Clean Up section of the page.
2. Click "Permanently delete flagged analyses".
3. *You should receive a prompt, "Are you sure/ This process is irreversible and can take several minutes".
4. Click "Yes".
5. *You should receive a Success message when completed.
6. Click "OK".

Test 10: Check User Manual

1. Locate and click on the Help link.
2. *A new browser window or tab will open.
3. *Check that you are looking at the User Manual (refer to title).
4. *Scroll through document and ensure all images display. Check that there are no "missing images" icons. Check that all Figures and Tables have a related image.
5. *Check that the headers and text is left justified.
6. *There should be six main sections:
 - a. *Nomenclature
 - b. *1. Introduction

- c. *2. Planning Manager
 - d. *3. Analyst Activities
 - e. *4. Administrator
 - f. *References
- 7. Go to the Contents section at the top of the page.
- 8. *Click on Nomenclature and check that it goes to that section.
- 9. *Randomly select 2 links in the four main sections and make sure they anchor to the corresponding location of the page.
 - a. *1. Introduction
 - b. *2. Planning Manager
 - c. *3. Analyst Activities
 - d. *4. Administrator
- 10. *Click on References and check that it goes to that section.
- 11. *Randomly select 2 links in the Figures section and make sure they anchor to the corresponding location of the page. These will anchor on the Figure title – you will have to scroll up to view the image.
- 12. *Randomly select 2 links in the Tables section and make sure they anchor to the corresponding location of the page.

Test 11: Check Quick Start Guide

- 1. Locate and click on the Quick Start link.
- 2. *A new browser window or tab will open.
- 3. *Check that you are looking at the Quick Start Guide (refer to title).
- 4. *Scroll through document and ensure all images display. Check that there are no “missing images” icons. Check that all Figures and Tables have a related image.
- 5. *Check that the headers and text is left justified.
- 6. *There should be six main sections:
 - a. *Nomenclature
 - b. *1. Introduction
 - c. *2. Planning Manager
 - d. *3. Analyst Activities
 - e. *4. Administrator
 - f. *References
- 7. Go to the Contents section at the top of the page.
- 8. *Click on Nomenclature and check that it goes to that section.
- 9. *Randomly select 2 links in the four main sections and make sure they anchor to the corresponding location of the page.
 - a. *1. Introduction
 - b. *2. Planning Manager
 - c. *3. Analyst Activities
 - d. *4. Administrator
- 10. *Click on References and check that it goes to that section.
- 11. *Randomly select 2 links in the Figures section and make sure they anchor to the corresponding location of the page. These will anchor on the Figure title – you will have to scroll up to view the image.
- 12. *Randomly select 2 links in the Tables section and make sure they anchor to the corresponding location of the page.

Test 12: Check Bug Report/Feature Request Form

- 1. Locate and click on the Bug Report/Feature Request link.

2. *A new browser window or tab will open.
3. *Check that you are looking at the Bug Report/Feature Request (refer to title).
4. *Fill out a bug report or feature request.
5. Click Send.
6. *The information you filled out should appear in the generated text.

Test 13: Check Government Use Notice

1. Locate and click on the Government Use Notice link.
2. *A new window will open.
3. *Check that the GUN text appears:
 - a. Notice: This computer software was prepared by Sandia Corporation, hereinafter the Contractor, under Contract DE-AC04-94AL85000 with the Department of Energy (DOE). All rights in the computer software are reserved by DOE on behalf of the United States Government and the Contractor as provided in the Contract. You are authorized to use this computer software for Governmental purposes but it is not to be released or distributed to the public. NEITHER THE U.S. GOVERNMENT NOR THE CONTRACTOR MAKES ANY WARRANTY, EXPRESS OR IMPLIED, OR ASSUMES ANY LIABILITY FOR THE USE OF THIS SOFTWARE. This notice including this sentence must appear on any copies of this computer software.
4. *Close the GUN window.

Test 14: Add New User

1. Go to the Login Roles tab.
2. Click Add User.
3. *A row for the new user will appear at the bottom of the table.
4. Enter username johndoe<date> (e.g., johndoe04012015).
5. Click "Save Changes".
6. Click "OK" for the warning message.
7. *Your new user is added with default role of Analyst.
8. Click Add User.
9. *A row for the new user will appear at the bottom of the table.
10. Enter username zachdoe<date> (e.g., johndoe04012015).
11. Select all three user roles.
12. Click "Save Changes".
13. Click "OK" for the warning message.
14. *Your new user is added with all three user roles.

Test 15: Modify User Roles

1. Add role Planning Manager for johndoe.
2. Remove role Admin for zachdoe.
3. Click "Save Changes".
4. Click "OK" for the warning message.
5. *johndoe should have user roles Planning Manager and Analyst checked.
6. *zachdoe should have user roles Planning Manager and Analyst checked.
7. Add user role Admin and remove Analyst for zachdoe.
8. Click "Save Changes".
9. Click "OK" for the warning message.
10. *zachdoe should only have role Planning Manager checked.

Test 16: Delete User

1. Make sure that "Include deleted login roles" is NOT checked.
2. Click "Delete" for johndoe.
3. Click "Save Changes".
4. Click "OK" for the warning message.
5. *johndoe should be removed from the list.

Test 17: Restore User

1. Check "Include deleted login roles".
2. Click "OK" for the warning message.
3. *johndoe should appear with "Un-Delete" button.
4. Click "Un-Delete".
5. Click "Save Changes".
6. Click "OK" for the warning message.
7. *johndoe should have a "Delete" button.
8. Uncheck "Include deleted login roles".
9. Click "OK" for the warning message.
10. *johndoe should remain in the list.

Planning Manager Test Plan

Download the worksheet template and create a copy for your test. Record your test progress in the test worksheet. Remember to record whether this test is for the Quality (qual) or Production (prod) environment and the URL used for the test. Steps marked with an asterisk (*) need to be recorded for Pass/Fail in the worksheet.

All test values are notional.

Web browser

This test should be performed using the Internet Explorer browser. Quirks of the interface in IE will be documented in the user manual.

At the beginning of testing, clear the browser's cache. You may also wish to clear the cache after 2-3 hours of constant testing.

Clearing the cache in Internet Explorer

Internet Explorer 10 and 11

1. Click ALT-X
2. Safety -> Delete Browsing History
3. At a minimum, the following should be checked:
 - a. Preserve Favorites website data
 - b. Temporary Internet files and website files
 - c. Cookies and website data
4. Click Delete

Internet Explorer 8 and 9

1. Click Tools, and select Delete Browsing History... .
2. Deselect Preserve Favorites website data, and select Temporary Internet files, Cookies, and History.
3. Click Delete.

Test 1: Testing mission scenario interface in different screen resolutions

The goal of this test is to ensure that the web interface renders correctly at different screen resolutions.

1. *Record your current screen resolution in the worksheet in the Comments column. This will probably be a resolution around 1280 x 1024 (may be slightly higher or lower).
2. Click on your new baseline to open it.
3. Go to the Mission Scenarios tab.
4. Click "Add Mission Scenario".
5. Click "Create New Scenario".
6. **Scenario Creation**
 - a. *Set the title to "<your name> Screen Resolution Test".
 - b. *Set the Operation Type as "Major Combat Operations".
 - c. *Set the description to "This test scenario is created to test how webpages display at different screen resolutions."
 - d. **Default monitor resolution**
 - e. Make the browser fill the entire monitor.
 - f. *Check that the page, its tables, text and buttons look properly laid out on the screen.

- g. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - h. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - i. 1024 x 768 test**
 - j. Change the screen resolution on your monitor to 1024 x 768.
 - k. Make the browser fill the entire monitor.
 - l. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar may appear at the bottom of the screen to make the entire screen viewable.
 - m. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - n. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - o. 800 x 600 test**
 - p. Change the screen resolution on your monitor to 800 x 600.
 - q. Make the browser fill the entire monitor.
 - r. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - s. Click "Continue".
- 7. Personnel Costs**
- a. Leave the default values.
 - b. Default monitor resolution**
 - c. Change the screen resolution on your monitor to your default values recorded in step 1.
 - d. Make the browser fill the entire monitor.
 - e. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - f. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - g. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - h. 1024 x 768 test**
 - i. Change the screen resolution on your monitor to 1024 x 768.
 - j. Make the browser fill the entire monitor.
 - k. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar may appear at the bottom of the screen to make the entire screen viewable.
 - l. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - m. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - n. 800 x 600 test**
 - o. Change the screen resolution on your monitor to 800 x 600.
 - p. Make the browser fill the entire monitor.
 - q. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - r. Click "Continue".
- 8. Manpower Requirements**
- a. Use defaults for all tables. You will only need to update phase durations and import the TPFDD.
 - b. Phase Durations: Set the following end days for each phase:

Figure 1. Phase Duration Notional Data for Test 1.

Phase	Start Day	End Day	Duration
-------	-----------	---------	----------

Phase 0	0	2	2
Phase 1	3	18	16
Phase 2	19	35	17
Phase 3	36	90	55
Phase 4	91	120	30
Phase 5	121	245	125

- c. Manpower Requirements
 - i. Import file 2Base_Test_TPFDD.xlsx.
 - ii. Click “Import”.
 - iii. Select Scenario B from the menu and click “Select”.
 - iv. Select the corresponding column name from each menu.
 - v. Click “OK”.
 - d. **Default monitor resolution**
 - e. Change the screen resolution on your monitor to your default values recorded in step 1.
 - f. Make the browser fill the entire monitor.
 - g. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - h. *Resize the browser window so that it is narrower than the interface’s size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - i. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - j. **1024 x 768 test**
 - k. Change the screen resolution on your monitor to 1024 x 768.
 - l. Make the browser fill the entire monitor.
 - m. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar may appear at the bottom of the screen to make the entire screen viewable.
 - n. *Resize the browser window so that it is narrower than the interface’s size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - o. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - p. **800 x 600 test**
 - q. Change the screen resolution on your monitor to 800 x 600.
 - r. Make the browser fill the entire monitor.
 - s. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - t. Click “Continue”.
9. **Phase Durations**
- a. Leave the default values.
 - b. **Default monitor resolution**
 - c. Change the screen resolution on your monitor to your default values recorded in step 1.
 - d. Make the browser fill the entire monitor.
 - e. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - f. *Resize the browser window so that it is narrower than the interface’s size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - g. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - h. **1024 x 768 test**
 - i. Change the screen resolution on your monitor to 1024 x 768.
 - j. Make the browser fill the entire monitor.

- k. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar may appear at the bottom of the screen to make the entire screen viewable.
- l. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
- m. *Check that the page, its tables, text and buttons look properly laid out on the screen.
- n. 800 x 600 test**
- o. Change the screen resolution on your monitor to 800 x 600.
- p. Make the browser fill the entire monitor.
- q. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
- r. Click "Continue".

10. Policies & Guidance

- a. Leave the default values.
- b. Default monitor resolution**
- c. Change the screen resolution on your monitor to your default values recorded in step 1.
- d. Make the browser fill the entire monitor.
- e. *Check that the page, its tables, text and buttons look properly laid out on the screen.
- f. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
- g. *Check that the page, its tables, text and buttons look properly laid out on the screen.
- h. 1024 x 768 test**
- i. Change the screen resolution on your monitor to 1024 x 768.
- j. Make the browser fill the entire monitor.
- k. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar may appear at the bottom of the screen to make the entire screen viewable.
- l. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
- m. *Check that the page, its tables, text and buttons look properly laid out on the screen.
- n. 800 x 600 test**
- o. Change the screen resolution on your monitor to 800 x 600.
- p. Make the browser fill the entire monitor.
- q. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
- r. Click "Continue".

11. Risk in Using Non-Military Personnel

- a. Leave the default values.
- b. Default monitor resolution**
- c. Change the screen resolution on your monitor to your default values recorded in step 1.
- d. Make the browser fill the entire monitor.
- e. *Check that the page, its tables, text and buttons look properly laid out on the screen.
- f. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
- g. *Check that the page, its tables, text and buttons look properly laid out on the screen.
- h. 1024 x 768 test**
- i. Change the screen resolution on your monitor to 1024 x 768.
- j. Make the browser fill the entire monitor.

- k. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar may appear at the bottom of the screen to make the entire screen viewable.
 - l. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - m. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - n. **800 x 600 test**
 - o. Change the screen resolution on your monitor to 800 x 600.
 - p. Make the browser fill the entire monitor.
 - q. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - r. Click "Continue".
12. **Finish**
- a. Click "Complete".

Test 2: Toggle existing planning baselines display

The Planning Baselines tab controls whether or not a planning baseline is visible to the Analyst role. If the display box is checked, then the planning baseline is visible. Otherwise, it is not. Unchecking a planning baseline does not delete it.

1. Login as *planner*.
2. Go to the Planning Baselines tab.
3. Uncheck the Display column for baseline FY 2012 Q1 Baseline.
4. Click "Save Changes".
5. Log out.
6. Login as *analyst*.
7. *Baseline FY 2012 Q1 Baseline should not be displayed.
8. Log out.
9. Login as *planner*.
10. Check the Display column for baseline FY 2012 Q1 Baseline.
11. Click "Save Changes".
12. Log out.
13. Login as *analyst*.
14. *Check that the baseline now displays for the analyst.

Test 3: Create a new baseline using existing scenarios

This is to test:

- creating a new baseline with existing scenarios
 - modifying fields to ensure the values are being saved to the database. All changed values should be auto-saved.
1. Login as *planner*.
 2. On the Planning Baselines tab, click "Create New Planning Baseline".
 3. **Mission Scenarios**
 - a. *Set the title as "[your name] Test Baseline 1".
 - b. *Add scenarios New Granada and Prussia – Austere.
 - c. *Set the note as "Creating a new baseline using existing scenarios for testing."
 - d. Click "Continue".
 4. **Budget & Costs**

- a. *Click on the Page Contents links and “Back to Top” buttons to ensure they work.
- b. *Budget table: Enter the following values:

Figure 2. Budget Notional Data for Test 3.

Fiscal Year	Annual Budget (in millions)
FY2020	\$1,000,000
FY2021	\$1,000,000
FY2022	\$1,000,000
FY2023	\$1,300,000
FY2024	\$1,300,000

- c. *Personnel Costs table:
 - i. *Check that costs for US personnel groups are not editable.
 - ii. *Set the following values for the scenarios:

Figure 3. Personnel Costs Notional Data for Test 3.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada (War)	\$50	\$25
Prussia – Austere (War)	\$75	\$50

- d. Click “Continue”.

5. Manpower Substitutions

- a. *Click on the Page Contents links and “Back to Top” buttons to ensure they work.
- b. *Manpower Substitution Rules table:
 - i. *Check that the percentages for US personnel groups are not editable.
 - ii. *Set the following values for the scenarios:

Figure 4. Substitution Rules Notional Data for Test 3.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada (War)	95%	60%
Prussia – Austere (War)	80%	75%

- c. Click “Continue”.

6. Manpower Requirements

- a. *Click on the Page Contents links and “Back to Top” buttons to ensure they work.
- b. *Summary View table:
 - i. *This is a view only table. Check that no part of the table is editable.
 - ii. Close and expand the folders. Ensure that the bases and their values display properly.
 1. *New Granada: Iberia AFB and Ft. Nasrid
 2. *Prussia – Austere: Tazir AFB, Ft. Mitchell, Ft. Hope
- c. *View Requirements by Phase table:
 - i. *This is a view only table. Check that no part of the table is editable.
 - ii. *Select New Granada in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.

- iii. *Select New Granada – Iberia AFB in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
- iv. *Select New Granada – Ft. Nasrid in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
- v. *Select Prussia - Austere in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
- vi. *Select Prussia – Tazir AFB in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
- vii. *Select Prussia – Ft. Mitchell in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
- viii. *Select Prussia – Ft. Hope in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
- d. *Additional Support Needs table: Set all Planning Factors values to the percentages listed below for each base. Check that the values in the table underneath update.

Figure 5. Planning Factors Notional Data for Test 3.

	Base	Planning Factors
1	Iberia AFB	15%
2	Ft. Nasrid	30%
3	Tazir AFB	28%
4	Ft. Mitchell	133%
5	Ft. Hope	88%

- 7. *Recheck values on previous tabs. Check that all of your entered values are still there.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions & Requirements
- 8. Click the “Main” button. You should now be back on the Planning Baselines tab.
- 9. *Check that your new baseline is in the table (at the bottom) and has status Draft.
- 10. Click on your new baseline to open it.
- 11. *Recheck values on previous tabs. Check that all of your entered values are still there.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions & Requirements
- 12. Log out of the tool.
- 13. Log back in as *planner*.
- 14. *Check that your new baseline is in the table (at the bottom) and has status Draft.
- 15. *Check that both scenarios are listed for your baseline.
- 16. Click on your new baseline to open it.
- 17. *Recheck values on first three tabs. Check that all of your entered values are still there.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions & Requirements
 - d. Click “Continue” on the Manpower Substitutions page.
- 18. **Manpower Availability & Phase Durations**
 - a. *Click on the Page Contents links and “Back to Top” buttons to ensure they work.
 - b. *Manpower Availability table:
 - i. *Uncheck the “Allow Contractor Limits” box. The two contractor columns should disappear.
 - ii. *Enter the following values in the table.

- iii. *Ensure the totals are correct.

Figure 6. Manpower Availability Notional Data for Test 3.

JCA- Tier 1	Military - Active	Military - Reserve	DoD Civilians	Total
Force Support	400	125	30	555
Battlespace Awareness	2,200	350	300	2,850
Force Application	50,100	54,000	0	104,100
Logistics	11,000	7,000	1,000	19,000
Command and Control	550	500	200	1,250
Net-Centric	550	425	60	1,035
Protection	12,000	5,000	0	17,000
Building Partnerships	400	0	70	470
Corporate Mgmt & Spt	700	200	100	1,000
Total	77,900	67,600	1,760	147,260

- c. Phase Durations table:
 - i. *Set the start date and phase durations to the following values.

Figure 7. Phase Durations Notional Data for Test 3.

Scenario	Start Date	FY	0	1	2	3	4	5
New Granada (War)	2021-11-07	2022	0	2	2	5	5	7
Prussia – Austere (War)	2021-10-10	2022	3	1	4	4	2	3

- d. Click “Continue”.

19. Policies & Guidance

- a. *Click on the Page Contents links and “Back to Top” buttons to ensure they work.
- b. *Policy Selection:
 - i. *Expand the scenario folders in the table.
 - ii. *New Granada:
 - 1. *Ft Nasrid: Add policy “No Non-CAAF Contractors”.
 - iii. *Prussia – Austere:
 - 1. * Ft. Mitchell : Add policy “US Personnel Only”.
 - 2. * Ft. Hope: Add policy “Military only” .
- c. *Available Policies: This is a view only table. Check that the table is not editable.
- d. *Manpower Business Rules: This is a view only table. Check that the table is not editable.
- e. Click “Continue”.

20. Risk in Using Non-Military Personnel

- a. *Click on the Page Contents links and “Back to Top” buttons to ensure they work.
- b. *Risk in Using Non-Military Personnel table:
 - i. *Expand the scenario folders in the table.
 - ii. *Set each base to the following values:

Figure 8. Risk Notional Data for Test 3.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
New Granada (War)						
Iberia AFB	Low	Low	Medium	Medium	Low	Low
Ft. Nasrid	Low	Low	Medium	High	Low	Medium

Prussia – Austere (War)						
Tazir AFB	Low	Low	Low	Medium	Low	High
Ft. Mitchell	High	High	Extreme	High	High	High
Ft. Hope	High	Extreme	Extreme	High	High	Medium

iii. Click “Save Changes”.

21. *Recheck values on first six tabs. Check that all of your entered values are still there.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
22. Log out of the tool.
23. Log back in as *planner*.
24. *Check that both scenarios are listed for your baseline.
25. *Check that your new baseline is in the table (at the bottom) and has status Draft.
26. Click on your new baseline to open it.
27. *Recheck values on all tabs. Check that all of your entered values are still there.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
28. Log out of the tool.
29. Log in as *analyst*.
30. *Check that your baseline is not shown in the table.
31. Log out of the tool.

Test 4: Add an existing scenario to a draft baseline

1. Log in as *planner*.
2. Click on your new baseline to open it.
3. Go to the Mission Scenarios tab.
4. Click “Add Mission Scenario”.
5. Add Zamunda – 50k.
6. Click “Done”.
7. *Make the following changes to the Zamunda – 50k scenario:

Figure 9. Notional Data for Test 4.

	Tab	Table	Field	Change to value
a	Budget & Costs	Personnel Costs	3 rd -Country Contractors	\$80
b	Manpower Substitutions	Substitution Rules	Change 3 rd -Country Contractors	90%

c	Manpower Requirements	Additional Support Needs	Select Rhodes AFB from the menu.	Set all Planning Factors to 29%.
d	Manpower Availability & Phase Durations	Phase Durations	Start Date/FY	2022-12-04 FY: 2023
e		Phase Durations	Phase Durations	1 1 2 3 1
f	Policies & Guidance	Policy Selection	Rhodes AFB should already have a policy (No Non-CAAF Contractors).	Remove this policy so that it has none assigned.
g	Risk in Using Non-Military Personnel	Risk in Using Non-Military Personnel	Rhodes AFB	Medium Medium High Medium Low High

8. *Recheck values for Zamunda – 50k on all tabs. Check that all of your entered values are still there.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
9. Log out of the tool.
10. Log in as *planner*.
11. *Check that all three scenarios are listed for your baseline.
12. Click on your new baseline to open it.
13. *Recheck values for all three scenarios on all tabs. Check that all of your entered values are still there.
 - a. *New Granada (*see worksheet for values*)
 - i. *Mission Scenarios
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
 - b. *Prussia – Austere (*see worksheet for values*)
 - i. *Mission Scenarios
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel

- c. *Zamunda – 50k
 - i. *Mission Scenarios
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel

Test 5: Delete a scenario from and modify policies in a draft baseline

Scenarios can only be removed from baselines with status Draft. Policies can only be modified in baselines with status Draft.

1. Log in as *planner*.
2. *Check that all three scenarios are listed for your baseline.
3. Click on your new baseline to open it.
4. Go to the Mission Scenarios tab.
5. Click “Add Mission Scenario”.
6. Remove Zamunda – 50k.
7. Click “Done”.
8. *Zamunda should not appear in the Mission Scenarios table.
9. *Check all tabs to ensure that Zamunda has been removed.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
10. Return to the Main page, either by clicking “Main” or the banner image.
11. *Check that only New Granada and Prussia – Austere are listed for your baseline.
12. *Click on the baseline and check again that Zamunda is no longer listed on any tab in the baseline.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
13. Log out of the tool.
14. Log in as *planner*.
15. *Check that only New Granada and Prussia – Austere are listed for your baseline.
16. *Click on the baseline and check again that Zamunda is no longer listed on any tab in the baseline.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance

- g. *Risk in Using Non-Military Personnel
- 17. Go to the Policies & Guidance tab.
 - a. **Policy Selection:
 - i. *Expand the scenario folders in the table.
 - ii. *New Granada:
 - 1. *Add policy “No Non-CAAF Contractors” to Iberia AFB.
 - 2. *Remove policy from Ft. Nasrid.
 - iii. *Prussia – Austere:
 - 1. *Add policy “Military only” to Tazir AFB.
 - 2. *Remove policy from Ft. Mitchell.
 - 3. *Add policy “No Non-CAAF Contractors” to Ft Mitchell.
 - 4. *Remove policy from Ft. Hope.
 - iv. *Zamunda – 50k:
 - 1. *Add policy “US Personnel Only” to Rhodes AFB.
- 18. Click “Save Changes”.
- 19. Log out of the tool.
- 20. Log in as *planner*.
- 21. Click on the baseline and go to the Policies & Guidance tab.
- 22. *Check that the policies match the table below.

Figure 10. Policies Notional Data for Test 5.

	Mission Scenario	Modified policies
	New Granada (War)	
*a	Iberia AFB	No Non-CAAF Contractors
*b	Ft. Nasrid	All Personnel Groups
	Prussia – Austere (War)	
*c	Tazir AFB	Military Only
*d	Ft. Mitchell	No Non-CAAF Contractors
*e	Ft. Hope	All Personnel Groups
	Zamunda - 50k (Civil War)	
*f	Rhodes AFB	US Personnel Only

- 23. Restore the policies to the original values, shown in the table below.

Figure 11. Original Policies Notional Data for Test 5.

Mission Scenario	Original policies
New Granada (War)	
Iberia AFB	All Personnel Groups
Ft. Nasrid	No Non-CAAF Contractors

Prussia – Austere (War)	
Tazir AFB	All Personnel Groups
Ft. Mitchell	US Personnel Only
Ft. Hope	Military Only
Zamunda - 50k (Civil War)	
Rhodes AFB	All Personnel Groups

24. Log out of the tool.
25. Log in as *planner*.
26. Click on the baseline and go to the Policies & Guidance tab.
27. *Check that the policies match the table in Figure 11.

Test 6: Make the baseline Public and check that correct values reflected in Analyst screens

1. Go to Finish tab.
2. Click “Complete: Make this baseline available”.
3. Return to the Main page, either by clicking “Main” or the banner image.
4. *Check that your baseline has status Public.
5. *Check that only New Granada and Prussia – Austere are listed for your baseline.
6. Log out of the tool.
7. Log in as *analyst*.
8. *Check that your baseline is visible in the table.
9. Click “Start New Analysis”.
10. **Scenario Selection**
11. *Set the title to “<your name> Test Analysis 1”.
12. *Set the description to “Creating an analysis using all scenarios to check that values are correct.”
13. *Check that only New Granada and Prussia – Austere are listed in the scenarios table.
14. *Add both scenarios to the Included Scenarios table.
15. Click “Save Changes”.
16. Click “Continue”.
17. **Budget & Costs**
 - a. *Budget table should have the following values:

Figure 12. Budget Notional Data for Test 6.

Fiscal Year	Annual Budget (in millions)
FY2020	\$1,000
FY2021	\$1,000
FY2022	\$1,000
FY2023	\$1,300
FY2024	\$1,300

- b. *Personnel Costs table:
 - i. *Check that costs for US personnel groups are not editable.
 - ii. *Contractors should have the following values:

Figure 13. Personnel Costs Notional Data for Test 6.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada (War)	\$50	\$25
Prussia – Austere (War)	\$75	\$50

c. Click “Continue”.

18. Manpower Substitutions

- a. *Manpower Substitution Rules table:
 - i. *Check that the percentages for US personnel groups are not editable.
 - ii. *Contractors should have the following values:

Figure 14. Substitution Rules for Notional Data for Test 6.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada (War)	95%	60%
Prussia – Austere (War)	80%	75%

19. Manpower Requirements

- a. *Summary Overview table:
 - i. *This is a view only table. Check that no part of the table is editable.
 - ii. *Close and expand the folders. Ensure that the bases and their values display properly.
 1. *New Granada: Iberia AFB and Ft. Nasrid
 2. *Prussia – Austere: Tazir AFB, Ft. Mitchell, Ft. Hope
- b. *View Requirements by Phase table:
 - i. *This is a view only table. Check that no part of the table is editable.
 - ii. *Select New Granada in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
 - iii. *Select New Granada – Iberia AFB in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
 - iv. *Select New Granada – Ft. Nasrid in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
 - v. *Select Prussia - Austere in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
 - vi. *Select Prussia – Tazir AFB in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
 - vii. *Select Prussia – Ft. Mitchell in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
 - viii. *Select Prussia – Ft. Hope in the dropdown menu. Check that the Phase 5 values match the values in the Summary View table.
- c. *Additional Support Needs table: Check each base for the following planning factors values. Check that the values in the table underneath update.

Figure 15. Planning Factors Notional Data for Test 6.

	Base	Planning Factors
1	Iberia AFB	15%
2	Ft. Nasrid	30%

3	Tazir AFB	28%
4	Ft. Mitchell	133%
5	Ft. Hope	88%

d. Click “Continue”.

20. **Manpower Availability & Phase Durations**

a. *Manpower Availability table:

i. *There should only be three personnel columns.

ii. *The table should have the following values:

Figure 16. Manpower Availability Notional Data for Test 6.

JCA- Tier 1	Military - Active	Military - Reserve	DoD Civilians	Total
Force Support	400	125	30	555
Battlespace Awareness	2,200	350	300	2,850
Force Application	50,100	54,000	0	104,100
Logistics	11,000	7,000	1,000	19,000
Command and Control	550	500	200	1,250
Net-Centric	550	425	60	1,035
Protection	12,000	5,000	0	17,000
Building Partnerships	400	0	70	470
Corporate Mgmt & Spt	700	200	100	1,000
Total	77,900	67,600	1,760	147,260

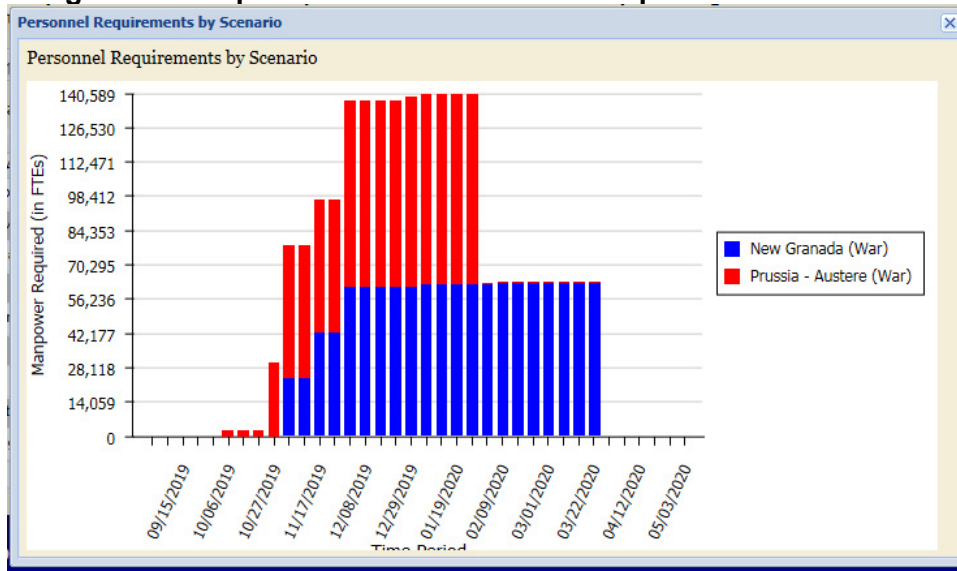
b. *Phase Durations table: The phase durations table should have the following values.

Figure 17. Phase Durations Notional Data for Test 6.

Scenario	Start Date	FY	0	1	2	3	4	5
New Granada (War)	2021-11-07	2022	0	2	2	5	5	7
Prussia – Austere (War)	2021-10-10	2022	3	1	4	4	2	3

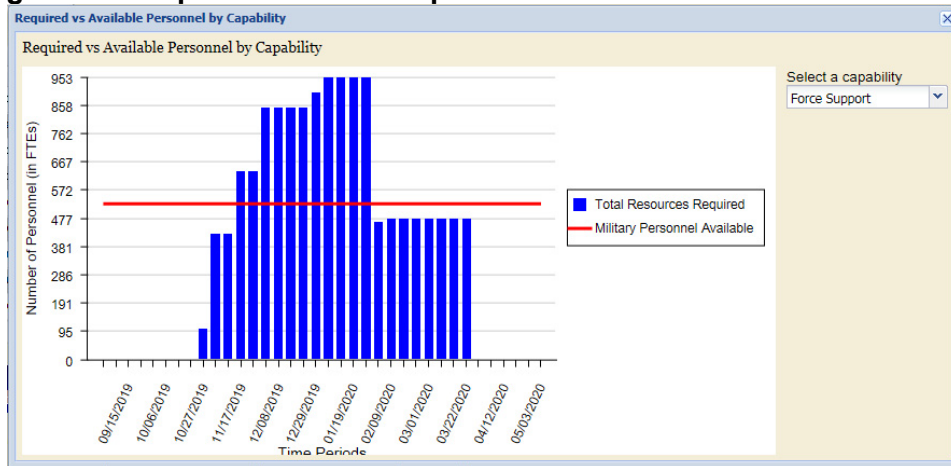
c. *Graph: Total Personnel Requirements by Scenario. Check that the graph looks like the following image:

Figure 18. Graph of Notional Personnel Requirements for Test 6.



- d. Graph: Required vs Available Personnel by Capability. Check that the graph looks like the following image when Force Support is selected in the dropdown menu:

Figure 19. Graph of Notional Required vs. Available Personnel for Test 6.



- e. Click “Continue”.

21. Policies & Guidance

a. Policy Selection:

- iii. Expand the scenario folders in the table.
- iv. The scenarios should have the following policies selected:
- v. *New Granada:
 1. “All Personnel Groups” for Iberia AFB.
 2. “No Non-CAAF Contractors” for Ft. Nasrid.
- vi. *Prussia – Austere:
 1. “All Personnel Groups” for Tazir AFB.
 2. “US Personnel Only” for Ft. Mitchell.
 3. “Military only” for Ft. Hope.

- b. *Available Policies: This is a view only table. Check that the table is not editable.

- c. *Manpower Business Rules: This is a view only table. Check that the table is not editable.
 - d. Click “Continue”.
22. **Risk in Using Non-Military Personnel**
- a. *Risk in Using Non-Military Personnel table: Expand the scenario folders in the table. The table should have the following values:

Figure 20. Risk Notional Data for Test 6.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
New Granada (War)						
Iberia AFB	Low	Low	Medium	Medium	Low	Low
Ft. Nasrid	Low	Low	Medium	High	Low	Medium
Prussia – Austere (War)						
Tazir AFB	Low	Low	Low	Medium	Low	High
Ft. Mitchell	High	High	Extreme	High	High	High
Ft. Hope	High	Extreme	Extreme	High	High	Medium

23. Return to the main page by clicking on the banner image.
24. Log out of the tool.

Test 7: Hide a scenario in a public baseline

Once a baseline is set to Public, scenarios cannot be removed. However, scenarios in a Public baseline can be hidden (not displayed) from analysts.

1. Log in as *planner*.
2. Click on your new baseline to open it.
3. Go to the Mission Scenarios tab.
4. In the mission scenarios table, uncheck the Display box for New Granada.
5. Click “Save Changes”.
6. Log out of the tool.
7. Log in as *analyst*.
8. *Check that your baseline is visible in the table.
9. Click “Start New Analysis”.
10. *Set the title to “<your name> Hide Scenario Test”
11. *Set the description to “New Granada should not appear as mission scenario.”
12. *Find the Mission Scenarios table. Only Prussia – Austere should be displayed.
13. Click “Save Changes”.
14. Return to the main page by clicking on the banner image.
15. *Check that your new analysis and title appear in the table under your new baseline.
16. Click “Select” to view your previous analysis (created in step 18).
17. *Check that both scenarios still exist in this analysis.
18. Log out of the tool.

Test 8: Attempt to remove a scenario from and modify policies in a public baseline

Once a baseline is set to Public, scenarios cannot be removed. However, scenarios in a Public baseline can be hidden (not displayed) from analysts.

1. Log in as *planner*.
2. Click on your new baseline to open it.

3. Go to the Mission Scenarios tab.
4. Click “Add Mission Scenario”.
5. *Try to remove both scenarios. You should not be able to do so.
6. Click “Done”.
7. *Check that both scenarios still exist in the mission scenarios table.
8. Go to the Policies & Guidance tab.
9. *Attempt to remove existing policies from all bases.
10. *Attempt to add policies to all bases.

Test 9: Add an existing scenario to a public baseline

New scenarios can be added to baselines at any time. Scenarios added to a public baseline should automatically be available to analysts.

1. Go to the Mission Scenarios tab.
2. Click “Add Mission Scenario”.
3. *Add Siam to Included Scenarios.
4. Click “Done”.
5. *Check that Siam appears in the mission scenarios table.
6. *Click through all of the tabs and check that Siam is appearing correctly. Siam has one base Port Lubot.

Figure 21. Notional Data for Test 9.

	Tab	Table	Field	Value
a	Budget & Costs	Personnel Costs	3 rd -Country Contractors	\$68
b		Personnel Costs	Local Nation Contractors	\$36
c	Manpower Substitutions	Substitution Rules	Change 3 rd -Country Contractors	85%
d	Manpower Substitutions	Substitution Rules	Local Nation Contractors	70%
e	Manpower Requirements	Additional Support Needs	Select Port Lubot from the menu.	0%
f	Manpower Availability & Phase Durations	Phase Durations	Start Date/FY	2021-10-10 FY: 2022
g		Phase Durations	Phase Durations	0 1 2 6 6 12
h	Policies & Guidance	Policy Selection	Policies	All Personnel Groups
i	Risk in Using Non-Military Personnel	Risk in Using Non-Military Personnel	Port Lubot	Low Low Medium High Medium Low

7. Log out of the tool.
8. Log in as *analyst*.
9. View both of the analyses created in Test 7 and Test 8.
10. *Check that Siam appears in the mission scenarios table.
11. Log out of the tool.

Test 10: Create a new mission scenario in the baseline

New scenarios can be created in a baseline.

1. Log in as *planner*.
2. Click on your new baseline to open it.
3. Go to the Mission Scenarios tab.
4. Click “Add Mission Scenario”.
5. Click “Create New Scenario”.
6. **Scenario Creation**
 - a. *Set the title to New Granada v1”.
 - b. *Set the Operation Type as “Major Combat Operations”.
 - c. *Set the description to “This test scenario was created from within the <your name> Test Baseline 1.”
 - d. Click “Continue”.
7. **Personnel Costs**
 - a. *Set the following cost values:

Figure 22. Personnel Costs Notional Data for Test 10.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada v1	\$68	\$44

- b. Click “Continue”.
8. **Manpower Substitutions & Requirements**
 - a. *Set the following substitution percentages:

Figure 23. Substitution Rules Notional Data for Test 10.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada v1	85%	70%

- b. *Phase Durations: Set the following end days for each phase:

Figure 24. Phase Durations in Days Notional Data for Test 10.

Phase	Start Day	End Day	Duration
Phase 0	0	10	11
Phase 1	11	35	25
Phase 2	36	70	35
Phase 3	71	160	90
Phase 4	161	220	60
Phase 5	221	255	35

- c. Manpower Requirements
 - i. Click “Import” without selecting a file.
 - ii. *Check that you get an appropriate error message.
 - iii. Close the error message.
 - iv. Import file NewGranada_TPFDD.xlsx.

- v. *Click “Import”.
- vi. *Select Scenario A from the menu and click “Select”.
- vii. *Select the corresponding column name from each menu.
- viii. *Click “OK”.
- ix. *Table should look like

Figure 25. Manpower Requirements Notional Data for Test 10.

Scenario	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total
New Granada v1	475	2,576	40,994	15,971	54	1,017	1,693	418	314	63,512
Ft. Nasrid	182	1,001	15,437	6,278	19	427	790	192	125	24,451
Iberia AFB	293	1,575	25,557	9,693	35	590	903	226	189	39,061
	475	2,576	40,994	15,971	54	1,017	1,693	418	314	63,512

- d. View Requirements by Phase
 - i. *New Granada v1

Figure 26. New Granada FTE Requirements by Phase Notional Data for Test 10.

New Granada v1	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total Requirements
Phase 0	0	1,200	1,040	50	0	0	200	0	0	2,490
Phase 1	100	2,070	18,925	2,623	0	0	400	150	5	24,273
Phase 2	309	2,179	31,732	8,034	0	0	644	418	10	43,326
Phase 3	414	2,576	40,288	15,601	15	1,017	1,599	418	37	61,965
Phase 4	464	2,576	40,591	15,971	15	1,017	1,693	418	314	63,059
Phase 5	475	2,576	40,994	15,971	54	1,017	1,693	418	314	63,512

- ii. *Ft. Nasrid

Figure 27. Ft. Nasrid FTE Requirements by Phase Notional Data for Test 10.

Ft. Nasrid	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total Requirements
Phase 0	0	466	392	20	0	0	93	0	0	971
Phase 1	38	804	7,127	1,031	0	0	187	69	2	9,258
Phase 2	118	847	11,949	3,158	0	0	301	192	4	16,569
Phase 3										

	158	1,001	15,171	6,132	5	427	746	192	15	23,847
Phase 4	177	1,001	15,285	6,278	5	427	790	192	125	24,280
Phase 5	182	1,001	15,437	6,278	19	427	790	192	125	24,451

iii. *Iberia AFB

Figure 28. Iberia AFB FTE Requirements by Phase Notional Data for Test 10.

Iberia AFB	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total Requirements
Phase 0	0	734	648	30	0	0	107	0	0	1,519
Phase 1	62	1,266	11,798	1,592	0	0	213	81	3	15,015
Phase 2	191	1,332	19,783	4,876	0	0	343	226	6	26,757
Phase 3	256	1,575	25,117	9,469	10	590	853	226	22	38,118
Phase 4	287	1,575	25,306	9,693	10	590	903	226	189	38,779
Phase 5	293	1,575	25,557	9,693	35	590	903	226	189	39,061

e. *Additional Support Needs: Set all Planning Factors values to the percentages listed below for each base. Check that the values in the table underneath update.

i. *Ft. Narid

Figure 29. Ft. Nasrid Planning Factors Notional Data for Test 10.

Ft. Nasrid	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total Requirements
Planning Factor	20%	0%	0%	90%	0%	0%	0%	12%	15%	
Phase 0	0	0	0	17	0	0	0	0	0	17
Phase 1	7	0	0	927	0	0	0	8	0	942
Phase 2	23	0	0	2,842	0	0	0	23	0	2,888
Phase 3	31	0	0	5,518	0	0	0	23	2	5,574
Phase 4	35	0	0	5,650	0	0	0	23	18	5,726
Phase 5	36	0	0	5,650	0	0	0	23	18	5,727

ii. *Iberia AFB

Figure 30. Iberia AFB Planning Factors Notional Data for Test 10.

Iberia AFB	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Totals
Planning Factor	20%	5%	0%	80%	5%	0%	0%	10%	20%	
Phase 0	0	36	0	24	0	0	0	0	0	60
Phase 1	12	63	0	1,273	0	0	0	8	0	1,356
Phase 2	38	66	0	3,900	0	0	0	22	1	4,027

Phase 3	51	78	0	7,575	0	0	0	22	4	7,730
Phase 4	57	78	0	7,754	0	0	0	22	37	7,948
Phase 5	58	78	0	7,754	1	0	0	22	37	7,950

f. Click “Continue”.

9. Phase Durations

a. *Set the start date and check that the phase durations match the following values.

Figure 31. Phase Durations Notional Data for Test 10.

Scenario	Start Date	FY	0	1	2	3	4	5
New Granada v1	2022-04-03	2022	1	4	5	13	9	5

b. Click “Continue”.

10. Policies & Guidance

a. Policy Selection

- i. *Expand the scenario folder to view the bases.
- ii. *Iberia AFB: leave as is (no policies)
- iii. *Ft. Nasrid: leave as is (no policies)

b. Click “Continue”.

11. Risk in Using Non-Military Personnel

- a. Expand the scenario folders in the table.
- b. *Set each base to the following values:

Figure 32. Risk Notional Data for Test 10.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
New Granada v1						
Iberia AFB	Low	Extreme	Medium	Low	Medium	Low
Ft. Nasrid	Low	High	High	Medium	Medium	Low

c. Click “Continue”.

12. Finish

a. DO NOT click complete.

13. *Recheck values on all tabs. Check that all of your entered values are still there.

- a. *Mission Scenarios
- b. *Budget & Costs
- c. *Manpower Substitutions & Requirements
- d. *Manpower Availability & Phase Durations
- e. *Policies & Guidance
- f. *Risk in Using Non-Military Personnel

14. When you have completed reviewing, click “Complete”.

15. *You should now be on the Mission Scenarios tab of your planning baseline.

16. *Check that your new scenario is in the mission scenarios table.

17. *Review all of the tabs to check that the values you entered for your new scenario are still correct.

- a. *Mission Scenarios
- b. *Budget & Costs
- c. *Manpower Substitutions
- d. *Manpower Requirements
- e. *Manpower Availability & Phase Durations
- f. *Policies & Guidance

- g. *Risk in Using Non-Military Personnel
18. Return to the Main page, either by clicking “Main” or the banner image.
19. *Check that your new Test Scenario A is listed with your baseline.
20. Log out of the tool.
21. Log in as *analyst*.
22. *View all of the analyses you previously created and check that your new Test Scenario A appears in the mission scenarios table.
 - a. *Test Analysis 1
 - b. *Hide Scenario Test
23. Click “Start New Analysis” for your new baseline.
24. *Set the title to “<your name> New Granada v1 Added”.
25. *Set the description to “New Granada v1 created and added to baseline.”
26. *Add New Granada v1 to the Included Scenarios table.
27. Click “Save Changes”.
28. *Click through the tabs and check that the correct values appear for New Granada v1 in all the tables.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
29. Log out of the tool.

Test 11: Add new scenario to a new baseline and cancel baseline creation

The newly created scenario can be added to other baselines once it is completed.

1. Login as *planner*.
2. On the Planning Baselines tab, click “Create New Planning Baseline”.
3. **Mission Scenarios**
 - a. *Set the title as “[your name] Test Baseline 2”.
 - b. *Add scenario New Granada v1.
 - c. *Set the note as “Creating a new baseline using New Granada v1 for testing.”
 - d. Click “Continue”.
4. For tabs 2-6, check that the values for New Granada v1 are correct.
5. ***Personnel Costs**

Figure 33. New Granada Personnel Costs Notional Data for Test 11.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada v1	\$68	\$44

6. **Manpower Substitutions**
 - a. *Manpower Substitution Rules

Figure 34. New Granada Substitution Rules Notional Data for Test 11.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada v1	85%	70%

7. Manpower Requirements

a. *Summary Overview

Figure 35. New Granada Manpower Requirements Notional Data for Test 11.

Scenario	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total
New Granada v1	475	2,576	40,994	15,971	54	1,017	1,693	418	314	63,512
Ft. Nasrid	182	1,001	15,437	6,278	19	427	790	192	125	24,451
Iberia AFB	293	1,575	25,557	9,693	35	590	903	226	189	39,061
	475	2,576	40,994	15,971	54	1,017	1,693	418	314	63,512

b. *Additional Support Needs

i. *Ft. Nasrid

Figure 36. Ft. Nasrid Planning Factors Notional Data for Test 11.

Ft. Nasrid	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total Requirements
Planning Factor	20%	0%	0%	90%	0%	0%	0%	12%	15%	
Phase 0	0	0	0	17	0	0	0	0	0	17
Phase 1	7	0	0	927	0	0	0	8	0	942
Phase 2	23	0	0	2,842	0	0	0	23	0	2,888
Phase 3	31	0	0	5,518	0	0	0	23	2	5,574
Phase 4	35	0	0	5,650	0	0	0	23	18	5,726
Phase 5	36	0	0	5,650	0	0	0	23	18	5,727

ii. *Iberia AFB

Figure 37. Iberia AFB Planning Factors Notional Data for Test 11.

Iberia AFB	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Totals
Planning Factor	20%	5%	0%	80%	5%	0%	0%	10%	20%	
Phase 0	0	36	0	24	0	0	0	0	0	60
Phase 1	12	63	0	1,273	0	0	0	8	0	1,356
Phase 2	38	66	0	3,900	0	0	0	22	1	4,027
Phase 3	51	78	0	7,575	0	0	0	22	4	7,730
Phase 4	51	78	0	7,754	0	0	0	22	37	7,948
Phase 5	58	78	0	7,754	1	0	0	22	37	7,950

8. ***Phase Durations**

Figure 38. New Granada Phase Durations Notional Data for Test 11.

Scenario	Start Date	FY	0	1	2	3	4	5
New Granada v1	2022-04-03	2022	1	4	5	13	9	5

9. ***Policies & Guidance**

a. Policy Selection

- i. Expand the scenario folder to view the bases.
- ii. *Iberia AFB: no policies assigned
- iii. *Ft. Nasrid: no policies assigned

10. ***Risk in Using Non-Military Personnel**

- a. Expand the scenario folders in the table.

Figure 39. New Granada Risk Notional Data for Test 11.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
New Granada v1						
Iberia AFB	Low	Extreme	Medium	Low	Medium	Low
Ft. Nasrid	Low	High	High	Medium	Medium	Low

11. Click the “Main” button. You should now be back on the Planning Baselines tab.
12. *Check that your new baseline is in the table (at the bottom) and has status Draft.
13. *Check that New Granada v1 is listed for your new baseline.
14. Log out of the tool.
15. Log back in as *planner*.
16. *Check that your new baseline is in the table (at the bottom) and has status Draft.
17. *Check that New Granada v1 is listed for your new baseline.
18. Click on your new baseline to open it.
19. Randomly select a tab 1-6.
20. *Click “Cancel Creation”.
21. *You should now be back on the Planning Baselines tab.
22. *Check that your new baseline is no longer in the table.
23. Log out of the tool.
24. Log back in as *planner*.
25. *Check that your new baseline is no longer in the table.

Test 12: Create a new mission scenario from the Mission Scenarios tab

1. Login as *planner*.
2. Go to the Mission Scenarios tab.
3. Click “Create New Mission Scenario”.
4. *Select the baseline you created in Test 4 (Test Baseline 1).
5. **Scenario Creation**
 - a. *Set the title to “Zamunda – 100k v1”.
 - b. *Set the Operation Type as “Humanitarian Assistance/Disaster Relief”.
 - c. *Set the description to “This test scenario was created from the Mission Scenarios tab.
 - d. Click “Continue”.
6. **Personnel Costs**
 - a. *Set the following cost values:

Figure 40. Zamunda - 100k Personnel Costs Notional Data for Test 12.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
Zamunda – 100k v1	\$68	\$32

b. Click “Continue”.

7. **Manpower Substitutions & Requirements**

a. *Set the following substitution percentages:

Figure 41. Zamunda - 100k Substitution Rules Notional Data for Test 12.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
Zamunda – 100k v1	85%	60%

b. *Phase Durations: Set the following end days for each phase:

Figure 42. Zamunda - 100k Phase Durations in Days Notional Data for Test 12.

Phase	Start Day	End Day	Duration
Phase 0	0	5	6
Phase 1	6	20	15
Phase 2	21	55	35
Phase 3	56	125	70
Phase 4	126	190	65
Phase 5	191	256	66

c. Manpower Requirements

- i. Click “Import” without selecting a file.
- ii. *Check that you get an appropriate error message.
- iii. Close the error message.
- iv. Import file Zamunda100k_TPFDD.xlsx.
- v. *Click “Import”.
- vi. *Select Scenario B from the menu and click “Select”.
- vii. *Select the corresponding column name from each menu.
- viii. *Click “OK”.
- ix. *Table should look like

Figure 43. . Zamunda - 100k Manpower Requirements Notional Data for Test 12.

Scenario	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total
Zamunda – 100k v1	420	386	1,541	21,750	213	153	1,066	278	47	25,854
Rhodes AFB	420	386	1,541	21,750	213	153	1,066	278	47	25,854
	420	386	1,541	21,750	213	153	1,066	278	47	25,854

d. View Requirements by Phase

iii. * Zamunda – 100k v1

Figure 44. Zamunda - 100k FTE Requirements by Phase Notional Data for Test 12.

Zamunda - 100k v1	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total Requirements
Phase 0	0	180	195	3,249	20	0	164	0	0	3,808
Phase 1	56	311	1,239	8,572	45	54	378	23	1	10,679
Phase 2	143	327	1,541	17,494	185	76	798	156	2	20,722
Phase 3	268	386	1,541	18,946	213	153	1,066	198	6	22,777
Phase 4	341	386	1,541	19,402	213	153	1,066	278	47	23,427
Phase 5	420	386	1,541	21,750	213	153	1,066	278	47	25,854

iv. *Rhodes AFB

Figure 45. Rhodes AFB FTE Requirements by Phase Notional Data for Test 12.

Rhodes AFB	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total Requirements
Phase 0	0	180	195	3,249	20	0	164	0	0	3,808
Phase 1	56	311	1,239	8,572	45	54	378	23	1	10,679
Phase 2	143	327	1,541	17,494	185	76	798	156	2	20,722
Phase 3	268	386	1,541	18,946	213	153	1,066	198	6	22,777
Phase 4	341	386	1,541	19,402	213	153	1,066	278	47	23,427
Phase 5	420	386	1,541	21,750	213	153	1,066	278	47	25,854

e. *Additional Support Needs: Set all Planning Factors values to the percentages listed below for each base. Check that the values in the table underneath update.

i. *Rhodes AFB

Figure 46. Zamunda - 100k Planning Factors Notional Data for Test 12.

Rhodes AFB	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Totals
Planning Factor	40%	70%	50%	100%	30%	30%	80%	20%	0%	
Phase 0	0	125	97	3,249	6	0	131	0	0	3,608
Phase 1	22	217	619	8,572	13	16	302	4	0	9,765
Phase 2	57	228	770	17,494	55	22	638	31	0	19,295
Phase 3	107	270	770	18,946	63	45	852	39	0	21,092
Phase 4	136	270	770	19,402	63	45	852	55	0	21,593
Phase 5	168	270	770	21,750	63	45	852	55	0	23,973

- f. Click “Continue”.
8. **Phase Durations**
 - a. *Set the start date and phase durations to the following values.

Figure 47. Zamunda - 100k Phase Durations Notional Data for Test 12.

Scenario	Start Date	FY	0	1	2	3	4	5
Zamunda – 100k v1	2022-07-03	2022	1	2	5	10	9	9

- b. Click “Continue”.
9. **Policies & Guidance**
 - a. *Policy Selection
 - i. Expand the scenario folder to view the bases.
 - ii. *Rhodes AFB: add “No Non-CAAF Contractors”.
 - b. Click “Continue”.
10. **Risk in Using Non-Military Personnel**
 - a. Expand the scenario folders in the table.
 - b. *Set each base to the following values:

Figure 48. Zamunda - 100k Risk Notional Data for Test 12.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Zamunda – 100k v1						
Rhodes AFB	Low	High	Medium	Extreme	Medium	Low

- c. Click “Continue”.
11. **Finish**
 - a. DO NOT click complete.
12. *Recheck values on all tabs. Check that all of your entered values are still there.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions & Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel
13. When you have completed reviewing, click “Complete”.
14. *You should now be on the Mission Scenarios tab of your planning baseline.
15. *Check that your new scenario is in the mission scenarios table.
16. *Review all of the tabs to check that the values you entered for your new scenario are still correct.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
17. Return to the Main page, either by clicking “Main” or the banner image.
18. *Check that your new Zamunda – 100k is listed with your baseline.
19. Log out of the tool.
20. Log in as *analyst*.
21. *View all of the analyses you previously created and check that your new Zamunda – 100k appears in the mission scenarios table.

- a. *Test Analysis 1
 - b. *Hide Scenario Test
 - c. *new scenario New Granada v1 Created
22. Find your analysis titled "<Your name> Zamunda – 100k v1 Added".
23. Click "Select" to open the analysis.
24. *Add to the description: "Zamunda – 100k v1 created and added to baseline."
25. *Add Zamunda – 100k v1 to the Included Scenarios table.
26. Click "Save Changes".
27. *Click through the tabs and check that the correct values appear for Zamunda – 100k v1 in all the tables.
 - a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
28. Log out of the tool.

Test 13: Create a new mission scenario with Manual TPFDD Entry

1. Log in as *planner*.
2. Click on your new baseline to open it.
3. Go to the Mission Scenarios tab.
4. Click "Add Mission Scenario".
5. Click "Create New Scenario".
6. **Scenario Creation**
 - a. *Set the title to "<your name> Manual TPFDD".
 - b. *Set the Operation Type as "Major Combat Operations".
 - c. *Set the description to "This test scenario was created from within the <your name> Test Baseline 1. Creating a scenario with manual TPFDD entry."
 - d. Click "Continue".
7. **Personnel Costs**
 - a. *Set the following cost values:

Figure 49. Manual TPFDD Entry Personnel Costs Notional Data for Test 13.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
Manual TPFDD	\$102	\$77

- b. Click "Continue".
8. **Manpower Substitutions & Requirements**
 - a. *Set the following substitution percentages:

Figure 50. Manual TPFDD Entry Substitution Rules Notional Data for Test 13.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
Manual TPFDD	93%	68%

- b. *Phase Durations: Set the following end days for each phase:

Figure 51. Manual TPFDD Entry Phase Durations Notional Data for Test 13.

Phase	Start Day	End Day	Duration
Phase 0	0	2	3
Phase 1	3	18	16
Phase 2	19	35	17
Phase 3	36	90	55
Phase 4	91	120	30
Phase 5	121	245	125

- c. Manpower Requirements
- ii. Click “Import” without selecting a file.
 - iii. *Check that you get an appropriate error message.
 - iv. Close the error message.
 - v. Click “Manually Enter Requirements”.
 - vi. *You will be prompted to create a base.
 - vii. Set the name to “Base 1”.
 - viii. Click “Create”.
 - ix. *Base 1 should appear in the dropdown menu.
 - x. Create a new base: Set the name to “<your name> Base 2”.
 - xi. Click “Create”.
 - xii. *Base 2 should appear in the dropdown menu.
 - xiii. Select Base 1 in the dropdown menu.
 - xiv. Click “Remove selected base”.
 - xv. *Base 1 should no longer appear in the dropdown menu.
 - xvi. *With Base 2 selected, enter the following values into the table.

Figure 52. Base 2 FTE Requirements by Phase Notional Data for Test 13.

Phase	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Phase Total
Phase 0	12	8	9	45	1	0	0	2	1	78
Phase 1	12	19	15	57	3	0	0	2	1	109
Phase 2	16	14	25	111	3	1	1	2	1	174
Phase 3	18	17	25	113	4	1	1	2	1	182
Phase 4	18	18	25	114	4	1	1	2	1	184
Phase 5	18	18	25	114	4	1	1	2	1	184

- xvii. *Check that the phase totals are correct.
- xviii. Create a new base: Set the name to “<your name> Base 1”.
- xix. Click “Create”.
- xx. *Base 1 should appear in the dropdown menu.
- xxi. *Base 1 table should have all 0’s.
- xxii. *Select Base 2 in the dropdown menu and check that all of the entered values are still there.
- xxiii. *Select Base 1, and enter the following values into the table:

Figure 53. Base 1 FTE Requirements by Phase Notional Data for Test 13.

Phase	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Phase Total
-------	---------------	-----------------------	-------------------	-----------	---------------------	-------------	------------	-----------------------	----------------------	-------------

Phase 0	7	0	2	16	0	0	0	0	0	25
Phase 1	7	12	2	26	0	1	0	0	0	48
Phase 2	0	0	0	0	0	0	0	0	0	0
Phase 3	34	51	12	90	3	4	0	0	0	194
Phase 4	0	0	0	0	0	0	0	0	0	0
Phase 5	12	19	5	38	0	0	0	0	0	74

- xxiv. *Check that the phase totals are correct.
- xxv. *Select Base 2 in the dropdown menu and check that all of the entered values are still there.
- xxvi. *Select Base 1 in the dropdown menu and check that all of the entered values are still there.
- xxvii. Create a new base: Set the name to "<your name> Base 1" (same name as step xvii).
- xxviii. Click "Create".
- xxix. *You should get an error message. Click "OK".
- xxx. Click "Done".
- xxxi. *Check that both bases appear in the Manpower Requirements table.
- xxxii. *Check that the Base totals are correct.
- xxxiii. *Check that the Scenario totals are correct.

Figure 54. Manual TPFDD Entry Total Manpower Requirements Notional Data for Test 13.

Scenario	Force Support	Battlespace Awareness	Force Application	Logistics	Command and Control	Net-Centric	Protection	Building Partnerships	Corporate Mgmt & Spt	Total
Manual TPFDD	154	176	145	724	22	9	4	12	6	1,252
Base 2	94	94	124	554	19	4	4	12	6	911
Base 1	60	82	21	170	3	5	0	0	0	341
	154	176	145	724	22	9	4	12	6	

- d. *Additional Support Needs: Set all Planning Factors values to the percentages listed below for each base. Check that the values in the table underneath update.

Figure 55. Manual TPFDD Entry Planning Factors Notional Data for Test 13.

Base	Planning Factors
Base 2	10%
Base 1	33%

- e. Go back to the Manpower Requirements table.
 - i. Click "Manually Enter Requirements".
 - ii. Create a base name "<your name> Base 3".
 - iii. Click "Create".
 - iv. *Base 3 should appear in the dropdown menu.
 - v. Leave its requirements table as all zeroes.
 - vi. Click "Done".
 - vii. *Check that both bases appear in the Manpower Requirements table.
 - viii. *Check that the Base totals are correct.
 - ix. *Check that the Scenario totals are correct.

Figure 56. Manual TPFDD Entry FTE Requirements Overview Notional Data for Test 13.

Scenario	Force	Battlespace	Force	Logistics	Command	Net-	Protection	Building	Corporate	Total
----------	-------	-------------	-------	-----------	---------	------	------------	----------	-----------	-------

	Support	Awareness	Application		and Control	Centric		Partnerships	Mgmt & Spt	
Manual TPFDD	154	176	145	724	22	9	4	12	6	1,252
Base 2	94	94	124	554	19	4	4	12	6	911
Base 1	60	82	21	170	3	5	0	0	0	341
Base 3	0	0	0	0	0	0	0	0	0	0
	154	176	145	724	22	9	4	12	6	

f. Click “Continue”.

9. Phase Durations

a. *Set the start date and phase durations to the following values.

Figure 57. Manual TPFDD Entry Phase Durations Notional Data for Test 13.

Scenario	Start Date	FY	0	1	2	3	4	5
Manual TPFDD	2022-04-03	2022	0	2	2	8	4	18

b. Click “Continue”.

10. Policies & Guidance

a. Policy Selection

- Expand the scenario folder to view the bases.
- *Base 2: add “US Personnel Only”.
- Base 1: leave as is (no policies)
- Base 3: leave as is (no policies)

b. Click “Continue”.

11. Risk in Using Non-Military Personnel

- Expand the scenario folders in the table.
- *Set each base to the following values:

Figure 58. Manual TPFDD Entry Risk Notional Data for Test 13.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Manual TPFDD						
Base 3	Medium	High	Extreme	Extreme	High	Medium
Base 2	Low	Low	Medium	Medium	Low	Low
Base 1	Low	Low	Medium	Medium	Low	Low

c. Click “Continue”.

12. Finish

a. DO NOT click complete.

13. *Recheck values on all tabs. Check that all of your entered values are still there.

- *Mission Scenarios
- *Budget & Costs
- *Manpower Substitutions & Requirements
- *Manpower Availability & Phase Durations
- *Policies & Guidance
- *Risk in Using Non-Military Personnel

14. When you have completed reviewing, click “Complete”.

15. *You should now be on the Mission Scenarios tab of your planning baseline.

16. *Check that your new scenario is in the mission scenarios table.

17. *Review all of the tabs to check that the values you entered for your new scenario are still correct.

- a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
18. **Finish**
- a. Create your new scenario.
19. Return to the Main page, either by clicking “Main” or the banner image.
20. *Check that your new Test Scenario A is listed with your baseline.
21. Log out of the tool.
22. Log in as *analyst*.
23. *View all of the analyses you previously created and check that your new Manual TPFDD scenario appears in the mission scenarios table.
- a. *Test Analysis 1
 - b. *Hide Scenario Test
 - c. *New Granada v1
 - d. *Zamunda – 100k v1
 - e. *Manual TPFDD
24. Click “Start New Analysis” for your new baseline.
25. *Set the title to “<your name> Manual TPFDD Added”.
26. *Set the description to “Manual TPFDD scenario created and added to baseline.”
27. *Add Manual TPFDD to the Included Scenarios table.
28. Click “Save Changes”.
29. *Click through the tabs and check that the correct values appear for Manual TPFDD in all the tables.
- a. *Mission Scenarios
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
30. Log out of the tool.

Test 14: Changed baseline values reflected in Analyst screens

- 1. Login as *planner*.
- 2. Select the baseline you created in Test 4 (Test Baseline 1).
- 3. Go to the **Budget & Costs** tab.
 - a. *Modify the following Budget values:

Figure 59. Baseline Budget Notional Data for Test 14.

Fiscal Year	Annual Budget (in millions)
FY2018	\$1,200
FY2019	\$1,000
FY2020	\$1,000
FY2021	\$2,000
FY2022	\$1,300

- b. *Modify the following Personnel Costs values:

Figure 60. Baseline Personnel Costs Notional Data for Test 14.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada (War)	\$61	\$25
Prussia – Austere (War)	\$75	\$49
Siam	\$104	\$36
New Granada v1	\$68	\$82
Zamunda – 100k v1	\$111	\$32
Manual TPFDD	\$102	\$80

- c. Click “Continue”.

4. Manpower Substitutions

- a. *Manpower Substitution Rules table: Modify the following contractor values:

Figure 61. Baseline Substitution Rules Notional Data for Test 14.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada (War)	95%	64%
Prussia – Austere (War)	88%	75%
Siam	85%	54%
New Granada v1	90%	70%
Zamunda – 100k v1	85%	79%
Manual TPFDD	100%	68%

5. Manpower Requirements

- a. *Additional Support Needs table: Check each base for the following planning factors values. Check that the values in the table underneath update.

Figure 62. Baseline Planning Factors Notional Data for Test 14.

Base	Planning Factors
Iberia AFB	18%
Ft. Nasrid	30%
Tazir AFB	210%
Ft. Mitchell	133%
Ft. Hope	5%
Port Lubot	99%

Iberia AFB	-
Ft. Nasrid	-
Rhodes AFB	-
Base 2	10%
Base 1	100%
Base 3	0%

b. Click “Continue”.

6. **Manpower Availability & Phase Durations**

a. *Manpower Availability table:

i. *There should only be three personnel columns.

ii. *Modify the following values:

Figure 63. Baseline Manpower Availability Notional Data for Test 14.

JCA- Tier 1	Military - Active	Military - Reserve	DoD Civilians	Total
Force Support	504	125	30	659
Battlespace Awareness	2,200	274	300	2,774
Force Application	50,100	54,000	604	104,704
Logistics	11,000	4,204	3,604	18,808
Command and Control	324	500	200	1,024
Net-Centric	550	0	60	610
Protection	12,000	3,504	0	15,504
Building Partnerships	400	0	84	484
Corporate Mgmt & Spt	1,004	200	100	1,304
Total	78,082	62,807	4,982	

iii. *Check that the column and row sums are correct.

iv. Click “Save Changes”.

v. *Check the “Allow Contractor Limits” box. Two columns should appear.

vi. *Set the following values for the contractors:

Figure 64. Baseline Contractor Manpower Availability Notional Data for Test 14.

JCA- Tier 1	Local Nation Contractors	3 rd -Country Contractors	Total
Force Support	54	0	713
Battlespace Awareness	0	104	2,878
Force Application	204	0	104,908
Logistics	5,504	0	24,312
Command and Control	0	24	1,048
Net-Centric	3,004	0	3,614
Protection	0	504	16,008
Building Partnerships	0	2,654	3,138
Corporate Mgmt & Spt	704	0	2,008
Total	8,766	3,286	

vii. *Check that the column and row sums are correct.

b. *Phase Durations table: Modify the following values.

Figure 65. Baseline Phase Durations Notional Data for Test 14.

Scenario	Start Date	FY	0	1	2	3	4	5
New Granada (War)	2022-05-08	2022	0	0	0	5	2	22
Prussia – Austere (War)	2022-10-23	2023	5	4	4	3	0	3
Siam	2022-08-14	2022	0	0	2	5	6	11
New Granada v1	2021-12-05	2022	3	1	3	2	3	4
Zamunda – 100k v1	2023-07-09	2023	10	14	1	2	17	0
Manual TPFDD	2022-06-26	2022	1	1	2	10	4	18

- c. Click “Continue”.
7. **Policies & Guidance**
 - a. *Policy Selection:
 - i. Expand the scenario folders in the table.
 - ii. *Make sure these are not editable.
 - b. Click “Continue”.
8. **Risk in Using Non-Military Personnel**
 - a. *Risk in Using Non-Military Personnel table:
 - i. Expand the scenario folders in the table.
 - ii. *Modify the following risk values:

Figure 66. Baseline Risk Notional Data for Test 14.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
New Granada (War)						
Iberia AFB	Low	Low	Medium	Medium	Low	Low
Ft. Nasrid	Medium	Medium	Medium	Medium	Medium	Medium
Prussia – Austere (War)						
Tazir AFB	High	High	High	High	High	High
Ft. Mitchell	High	High	Extreme	High	High	High
Ft. Hope	Low	Low	Low	Low	Low	Low
Siam						
Port Lubot	Extreme	Extreme	Extreme	Extreme	Extreme	Extreme
New Granada v1						
Iberia AFB	Low	Extreme	Medium	Low	Medium	Low
Ft. Nasrid	High	High	High	High	High	High
Zamunda – 100k v1						
Rhodes AFB	Extreme	Extreme	Extreme	Extreme	Extreme	Extreme
Manual TPFDD						
Base 2	Medium	High	Extreme	Extreme	High	Medium
Base 1	Medium	Medium	Medium	Medium	Medium	Medium
Base 3	Low	Low	Low	Low	Low	Low

- b. Click “Save Changes”.
9. Log out of the tool.
10. Log in as *analyst*.
11. Click “Select” for your “Test Analysis 1”.
12. *Click through the tabs and ensure that the values match the ones entered for Test 3 (*see worksheet for values*).

- c. *Mission Scenarios
 - d. *Budget & Costs
 - e. *Manpower Substitutions
 - f. *Manpower Requirements
 - g. *Manpower Availability & Phase Durations
 - h. *Policies & Guidance
 - i. *Risk in Using Non-Military Personnel
13. Click on the banner to return to the main page.
14. Click “Select” for your “new New Granada v1 Added”.
15. *Click through the tabs and ensure the values for New Granada v1 match the values from Test 10 and the values for Zamunda – 100k v1 match the values from Test 12.
- j. *New Granada v1
 - i. *Mission Scenarios
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
 - k. *Zamunda – 100k v1
 - i. *Mission Scenarios
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
16. Return to the Scenario Selection tab.
17. *Add scenario New Granada to the analysis.
18. *Click through the tabs and ensure that the values for Manual TPFDD Entry scenario match the values entered from Test 13.
- l. *Manual TPFDD
 - i. *Mission Scenarios
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
 - m. *Budget table
 - n. *Manpower Availability
19. Click on the banner to return to the main page.
20. Click “Start New Analysis” for your new baseline.
21. *Set the title to “Testing for Changed Values”.
22. *Set the description to “Values were changed for this baseline. Checking that the changes are reflected in a new analysis.”
23. *Add the following scenarios to the Included Scenarios table:
- a. New Granada
 - b. Prussia – Austere
 - c. Siam
 - d. New Granada v1

- e. Zamunda – 100k v1
 - f. Manual TPFDD
24. Click “Save Changes”.
 25. *Click through the tabs and check that all values match those entered for this test (Test 14).
 - o. *Mission Scenarios
 - p. *Budget & Costs
 - q. *Manpower Substitutions
 - r. *Manpower Requirements
 - s. *Manpower Availability & Phase Durations
 - t. *Policies & Guidance
 - u. *Risk in Using Non-Military Personnel
 26. Log out of the tool.

Test 15: Check User Manual

1. Locate and click on the Help link.
2. *A new browser window or tab will open.
3. *Check that you are looking at the User Manual (refer to title).
4. *Scroll through document and ensure all images display. Check that there are no “missing images” icons. Check that all Figures and Tables have a related image.
5. *Check that the headers and text is left justified.
6. *There should be six main sections:
 - a. *Nomenclature
 - b. *1. Introduction
 - c. *2. Planning Manager
 - d. *3. Analyst Activities
 - e. *4. Administrator
 - f. *References
7. Go to the Contents section at the top of the page.
8. *Click on Nomenclature and check that it goes to that section.
9. *Randomly select 2 links in the four main sections and make sure they anchor to the corresponding location of the page.
 - a. *1. Introduction
 - b. *2. Planning Manager
 - c. *3. Analyst Activities
 - d. *4. Administrator
10. *Click on References and check that it goes to that section.
11. *Randomly select 2 links in the Figures section and make sure they anchor to the corresponding location of the page. These will anchor on the Figure title – you will have to scroll up to view the image.
12. *Randomly select 2 links in the Tables section and make sure they anchor to the corresponding location of the page.

Test 16: Check Quick Start Guide

1. Locate and click on the Quick Start link.
2. *A new browser window or tab will open.
3. *Check that you are looking at the Quick Start Guide (refer to title).
4. *Scroll through document and ensure all images display. Check that there are no “missing images” icons. Check that all Figures and Tables have a related image.
5. *Check that the headers and text is left justified.
6. *There should be six main sections:

- a. *Nomenclature
 - b. *1. Introduction
 - c. *2. Planning Manager
 - d. *3. Analyst Activities
 - e. *4. Administrator
 - f. *References
7. Go to the Contents section at the top of the page.
8. *Click on Nomenclature and check that it goes to that section.
9. *Randomly select 2 links in the four main sections and make sure they anchor to the corresponding location of the page.
 - e. *1. Introduction
 - f. *2. Planning Manager
 - g. *3. Analyst Activities
 - h. *4. Administrator
10. *Click on References and check that it goes to that section.
11. *Randomly select 2 links in the Figures section and make sure they anchor to the corresponding location of the page. These will anchor on the Figure title – you will have to scroll up to view the image.
12. *Randomly select 2 links in the Tables section and make sure they anchor to the corresponding location of the page.

Test 17: Check Bug Report/Feature Request Form

1. Locate and click on the Bug Report/Feature Request link.
2. *A new browser window or tab will open.
3. *Check that you are looking at the Bug Report/Feature Request (refer to title).
4. *Fill out a bug report or feature request.
5. Click Send.
6. *The information you filled out should appear in the generated text.

Test 18: Check Government Use Notice

1. Locate and click on the Government Use Notice link.
2. *A new window will open.
3. *Check that the GUN text appears:
 - b. Notice: This computer software was prepared by Sandia Corporation, hereinafter the Contractor, under Contract DE-AC04-94AL85000 with the Department of Energy (DOE). All rights in the computer software are reserved by DOE on behalf of the United States Government and the Contractor as provided in the Contract. You are authorized to use this computer software for Governmental purposes but it is not to be released or distributed to the public. NEITHER THE U.S. GOVERNMENT NOR THE CONTRACTOR MAKES ANY WARRANTY, EXPRESS OR IMPLIED, OR ASSUMES ANY LIABILITY FOR THE USE OF THIS SOFTWARE. This notice including this sentence must appear on any copies of this computer software.
4. *Close the GUN window.

Analyst Test Plan

Download the worksheet template and create a copy for your test. Record your test progress in the test worksheet. Remember to record whether this test is for the Quality (qual) or Production (prod) environment and the URL used for the test. Steps marked with an asterisk (*) need to be recorded for Pass/Fail in the worksheet.

All test values are notional.

Web browser

This test should be performed using the Internet Explorer browser. Quirks of the interface in IE will be documented in the user manual.

At the beginning of testing, clear the browser's cache. You may also wish to clear the cache after 2-3 hours of constant testing.

Clearing the cache in Internet Explorer

Internet Explorer 10 and 11

1. Click ALT-X
2. Safety -> Delete Browsing History
3. At a minimum, the following should be checked:
 - a. Preserve Favorites website data
 - b. Temporary Internet files and website files
 - c. Cookies and website data
4. Click Delete

Internet Explorer 8 and 9

1. Click Tools, and select Delete Browsing History... .
2. Deselect Preserve Favorites website data, and select Temporary Internet files, Cookies, and History.
3. Click Delete.

Test 1: Testing interface in different screen resolutions

The goal of this test is to ensure that the web interface renders correctly at different screen resolutions.

1. *Select an existing, solved analysis to view. Record the analysis ID in the Comment column.
2. **Current monitor resolution**
3. *Record your current screen resolution in the worksheet in the Comments column. This will probably be a resolution around 1280 x 1024 (may be slightly higher or lower).
4. Make the browser fill the entire monitor.
5. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - a. *Overview tab
 - b. *From the Analysis Inputs tab, click through all of the tabs.
 - i. *Scenario Selection
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
 - c. *From the Analysis Results tab, click through all of the tabs.

- i. *Manpower Mix
 - ii. *Budget Summary
 - iii. *Assignments
 - iv. *Assignments by Personnel Group
 - v. *Assignments by Capability
 - vi. *Assignments by Scenario
 - vii. *Analyses Comparison
- 6. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
- 7. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - a. *Overview tab
 - b. *From the Analysis Inputs tab, click through all of the tabs.
 - i. *Scenario Selection
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
 - c. *From the Analysis Results tab, click through all of the tabs.
 - i. *Manpower Mix
 - ii. *Budget Summary
 - iii. *Assignments
 - iv. *Assignments by Personnel Group
 - v. *Assignments by Capability
 - vi. *Assignments by Scenario
 - vii. *Analyses Comparison
- 8. **1024 x 768 test**
- 9. Change the screen resolution on your monitor to 1024 x 768.
- 10. Make the browser fill the entire monitor.
- 11. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar may appear at the bottom of the screen to make the entire screen viewable.
 - a. *Overview tab
 - b. *From the Analysis Inputs tab, click through all of the tabs.
 - i. *Scenario Selection
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
 - c. *From the Analysis Results tab, click through all of the tabs.
 - i. *Manpower Mix
 - ii. *Budget Summary
 - iii. *Assignments
 - iv. *Assignments by Personnel Group
 - v. *Assignments by Capability
 - vi. *Assignments by Scenario
 - vii. *Analyses Comparison

12. *Resize the browser window so that it is narrower than the interface's size. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
13. *Check that the page, its tables, text and buttons look properly laid out on the screen.
 - a. *Overview tab
 - b. *From the Analysis Inputs tab, click through all of the tabs.
 - i. *Scenario Selection
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
 - c. *From the Analysis Results tab, click through all of the tabs.
 - i. *Manpower Mix
 - ii. *Budget Summary
 - iii. *Assignments
 - iv. *Assignments by Personnel Group
 - v. *Assignments by Capability
 - vi. *Assignments by Scenario
 - vii. *Analyses Comparison
14. **800 x 600 test**
15. Change the screen resolution on your monitor to 800 x 600.
16. Make the browser fill the entire monitor.
17. *Check that the page, its tables, text and buttons look properly laid out on the screen. Make sure that all text and all table columns and rows are viewable. A horizontal scrollbar should appear at the bottom of the screen to make the entire screen viewable.
 - a. *Overview tab
 - b. *From the Analysis Inputs tab, click through all of the tabs.
 - i. *Scenario Selection
 - ii. *Budget & Costs
 - iii. *Manpower Substitutions
 - iv. *Manpower Requirements
 - v. *Manpower Availability & Phase Durations
 - vi. *Policies & Guidance
 - vii. *Risk in Using Non-Military Personnel
 - c. *From the Analysis Results tab, click through all of the tabs.
 - i. *Manpower Mix
 - ii. *Budget Summary
 - iii. *Assignments
 - iv. *Assignments by Personnel Group
 - v. *Assignments by Capability
 - vi. *Assignments by Scenario
 - vii. *Analyses Comparison

Test 2: Testing the work flow of a solved analysis

1. Log in as *analyst*.
2. Select an analysis with status "Solved".
3. *Record the name and ID of the selected analysis.
4. *Use the "Continue" button at the TOP of each page to move through all of the Analysis Inputs tabs. Check that the tabs move in correct sequential order.
 - a. *Budget & Costs

- b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel
 - g. *graph on Analysts Results tab
- 5. Return to the Analysis Inputs tab.
- 6. *Check that you are on the Risk in Using Non-Military Personnel tab.
- 7. *Use the “Back” button at the TOP of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct (reverse) sequential order.
 - a. *Policies & Guidance
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Budget & Costs
 - f. *Scenario Selection
- 8. *Use the “Continue” button at the BOTTOM of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct sequential order.
 - a. *Budget & Costs
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel
 - g. *graph on Analysts Results tab
- 9. Return to the Analysis Inputs tab.
- 10. *Check that you are on the Risk in Using Non-Military Personnel tab.
- 11. *Use the “Back” button at the BOTTOM of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct (reverse) sequential order.
 - a. *Policies & Guidance
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Budget & Costs
 - f. *Scenario Selection
- 12. *Click on the banner and check that you return to the main page.
- 13. Return to your analysis.
- 14. *Click the “Home” link at the top of the screen and check that you return to the main page.
- 15. Return to your analysis.
- 16. *From the Analysis Inputs tab, click through all of the tabs. Check that the correct page is displayed.
 - a. *Scenario Selection
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
- 17. *From the Analysis Results tab, click through all of the tabs. Check that the correct page and graphs are displayed.
 - a. *Manpower Mix

- b. *Budget Summary
 - c. *Assignments
 - d. *Assignments by Personnel Group
 - e. *Assignments by Capability
 - f. *Assignments by Scenario
 - g. *Analyses Comparison
18. *From the Overview tab, click through all of the links. Check that the links go to the correct tabs.
- a. *Scenario Selection
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
 - h. *Run Model – should not go anywhere
 - i. *Manpower Mix
 - j. *Budget Summary
 - k. *Assignments
 - l. *Assignments by Personnel Group
 - m. *Assignments by Capability
 - n. *Assignments by Scenario
 - o. *Analyses Comparison
19. *From the Analysis Inputs tab, click on each tab. From each tab, click on the Page Contents links and “Back to Top” buttons to ensure they work.
- a. *Budget & Costs
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel

Test 3: Testing the work flow of a new analysis

1. From the main page, find Baseline 3 *FY 2012 Q1 Baseline*.
2. Click “Start New Analysis”.
3. *Set the title as “<your name> Workflow Test”.
4. *Set the description as “Testing the workflow of a new analysis.”
5. Click “Continue” at the top of the page.
6. *Check that you get the error message, “Please ensure you have selected at least one scenario.”
7. Close the error message.
8. Click “Continue” at the bottom of the page.
9. *Check that you get the error message, “Please ensure you have selected at least one scenario.”
10. Close the error message.
11. Add any scenario to the analysis.
12. Click “Continue” at the top of the page.
13. *Use the “Continue” button at the TOP of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct sequential order.
 - a. *Budget & Costs
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance

- f. *Risk in Using Non-Military Personnel
14. Click “Continue: Run Analysis”.
15. *Check that you are on the Analysis Results page. All of its tabs should be grayed out.
16. Return to the Analysis Inputs tab.
17. *Check that you are on the Risk in Using Non-Military Personnel tab.
18. *Use the “Back” button at the TOP of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct (reverse) sequential order.
 - a. *Policies & Guidance
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Budget & Costs
 - f. *Scenario Selection
19. *Click on the banner and check that you return to the main page.
20. *Check that your analysis is in the table. It should have the correct title and have status “Initial”.
21. Click “Select” for your analysis.
22. *Use the “Continue” button at the BOTTOM of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct sequential order.
 - a. *Budget & Costs
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel
23. Click “Continue: Run Analysis”.
24. *Check that you are on the Analysis Results page. All of its tabs should be grayed out.
25. Return to the Analysis Inputs tab.
26. *Check that you are on the Risk in Using Non-Military Personnel tab.
27. *Use the “Back” button at the BOTTOM of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct (reverse) sequential order.
 - a. *Policies & Guidance
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Budget & Costs
 - f. *Scenario Selection
28. *Click the “Home” link at the top of the screen and check that you return to the main page.
29. Return to your analysis.
30. *From the Analysis Inputs tab, click through all of the tabs. Check that the correct page is displayed.
 - a. *Scenario Selection
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
31. *From the Analysis Results tab, check that all of its tabs are grayed out.
32. *From the Overview tab, click through all of the links. Check that the links go to the correct tabs.
 - a. *Scenario Selection
 - b. *Budget & Costs

- c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
 - h. *Run Model – should not be active link
 - i. *Analysis results – “The analysis has not been run, so no results are available”.
33. *From the Analysis Inputs tab, click on each tab. From each tab, click on the Page Contents links and “Back to Top” buttons to ensure they work.
- a. *Budget & Costs
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel

Test 4: Scenario Selection tab of new analysis

Test 4-10 change all values on each page to ensure these updates are correctly being stored and retrieved from the database.

1. Start from the main page.
2. Go to the analysis created in Test 3.
3. *Check that the title and description are correct.
4. *Check that the scenario added in Test 3 is still in the Included Scenarios table.
5. *Change the title to “<your name> New Analysis Test”.
6. *Add to the description, “Testing the creation of a new analysis.”
7. *Remove all scenarios from the analysis.
8. Click “Continue”.
9. *Check that you get the error message, “Please ensure you have selected at least one scenario.”
10. Close the error message.
11. *Add “Prussia – Austere” and “Zamunda – 100k” to the analysis.
12. Click “Continue”.
13. Click “Back”.
14. *Check that the title and description match the new values entered in step 4 and 5.
15. *Check that the two scenarios are still in the table.
16. Go to the main page of the tool.
17. *Check that the title of your analysis matches your new title.
18. Return to your analysis.
19. *Check that the two scenarios are still in the Included Scenarios table.
20. Log out of the tool.
21. Log in as *analyst*.
22. *Check that the title of your analysis matches your new title.
23. Return to your analysis.
24. *Check that the title and description match the new values entered in step 4 and 5.
25. *Check that the two scenarios are still in the Included Scenarios table.

Test 5: Budget & Cost tab of new analysis

1. Go to the Budget & Costs tab.
2. *Budget table: Enter the following values:

Figure 67. New Analysis Budget Notional Data for Test 5.

Fiscal Year	Annual Budget (in thousands)
FY2016	\$1,000
FY2017	\$1,000
FY2018	\$1,000
FY2019	\$1,300
FY2020	\$1,300

3. *Personnel Costs table:
 - b. *Check that costs for US personnel groups are not editable.
 - c. *Set the following values for the scenarios:

Figure 68. New Analysis Personnel Costs Notional Data for Test 5.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
Prussia – Austere	\$70	\$44
Zamunda – 100k	\$69	\$33

4. Click “Continue” to move to the next tab.
5. Return to the previous tab.
6. *Check all of the values match the new values.
7. Go to the main page.
8. Return to your analysis and return to this tab.
9. *Check all of the values match the new values.
10. Log out of the application.
11. Log in as *analyst*.
12. Return to your analysis and return to this tab.
13. *Check all of the values match the new values.
14. *Budget table: Check the “No budget constraints” box.
 - a. *The table should gray out.
 - b. *Check that the table is not editable.
15. Click “Continue” to move to the next tab.
16. Return to the previous tab.
17. *Check that the budget table is grayed out.
18. Go to the main page.
19. Return to your analysis and return to this tab.
20. *Check that the budget table is grayed out.

Test 6: Manpower Substitutions & Manpower Requirements tabs of new analysis

1. Go to the Manpower Substitutions tab.
2. *Manpower Substitution Rules table:
 - a. *Check that the percentages for US personnel groups are not editable.
 - b. *Set the following values for the scenarios:

Figure 69. New Analysis Substitution Rules Notional Data for Test 6.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors

Prussia – Austere (War)	90%	70%
Zamunda – 100k	80%	65%

3. Go to the Manpower Requirements tab.
4. *Summary Overview table:
 - a. *This is a view only table. Check that no part of the table is editable.
 - b. *Close and expand the folders. Ensure that the bases and their values display properly.
 - i. *Prussia – Austere: Tazir AFB, Ft. Mitchell, Ft. Hope
 - ii. *Zamunda – 100k: Rhodes AFB
5. *Requirements by Phase table:
 - a. *This is a view only table. Check that no part of the table is editable.
 - b. *Select each base for each scenario. Ensure that the bases and their values display properly.
 - i. *Prussia – Austere:
 - a. Tazir AFB
 - b. Ft. Mitchell,
 - c. Ft. Hope
 - ii. *Zamunda – 100k:
 - a. Rhodes AFB
6. *Additional Support Needs table: Set all Planning Factors values to the percentages listed below for each base. Check that the values in the table underneath update.

Figure 70. New Analysis Planning Factors Notional Data for Test 6.

	Base	Planning Factors
1	Tazir AFB	28%
2	Ft. Mitchell	13%
3	Ft. Hope	55%
4	Rhodes AFB	37%

7. Click “Continue” to move to the next tab.
8. Return to the previous tab.
9. *Check all of the values match the new values.
10. Go to the main page.
11. Return to your analysis and return to this tab.
12. *Check all of the values match the new values.
13. Log out of the application.
14. Log in as *analyst*.
15. Return to your analysis and return to this tab.
16. *Check all of the values match the new values.

Test 7: Manpower Availability & Phase Durations tab of new analysis

1. Go to the Manpower Availability & Phase Durations tab.
2. *Manpower Availability table:
 - a. *Uncheck the “Allow Contractor Limits” box. The two contractor columns should disappear.
 - b. *Enter the following values in the table.
 - c. *Ensure the totals are correct.

Figure 71. New Analysis Manpower Availability Notional Data for Test 7.

JCA- Tier 1	Military - Active	Military - Reserve	DoD	Total
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			Civilians	
Force Support	400	125	30	555
Battlespace Awareness	2,200	350	300	2,850
Force Application	50,100	54,000	0	104,100
Logistics	11,000	7,000	1,000	19,000
Command and Control	550	500	200	1,250
Net-Centric	550	425	60	1,035
Protection	12,000	5,000	0	17,000
Building Partnerships	400	0	70	470
Corporate Mgmt & Spt	700	200	100	1,000
Total	77,900	67,600	1,760	147,260

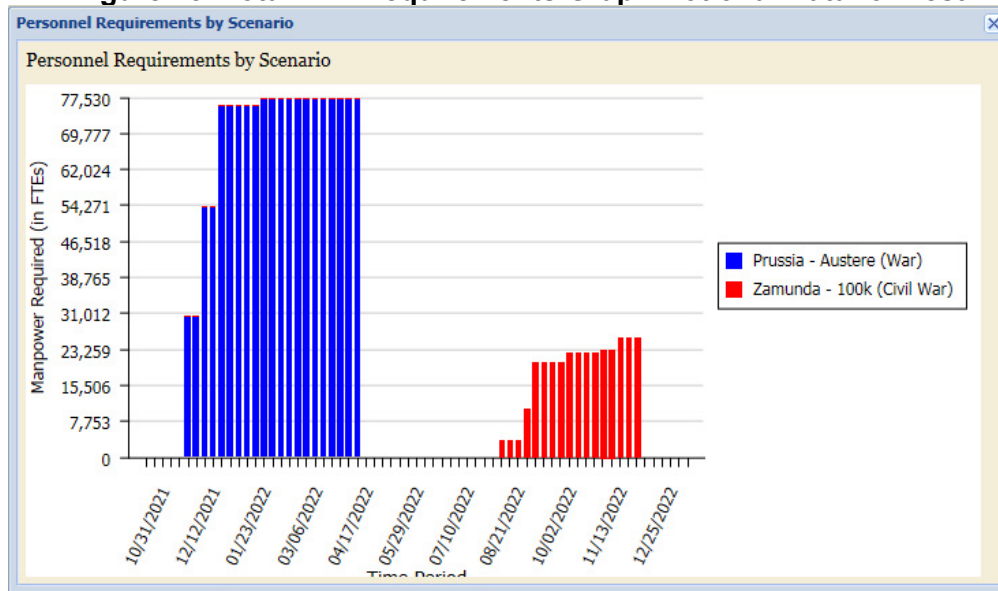
3. *Phase Durations table:
 - a. *Set the start date and phase durations to the following values.

Figure 72. New Analysis Phase Durations Notional Data for Test 7.

Scenario	Start Date	FY	0	1	2	3	4	5
Prussia – Austere (War)	2021-11-21	2022	0	2	2	5	5	7
Zamunda – 100k	2022-08-07	2022	3	1	4	4	2	3

4. *Graph: Total Personnel Requirements by Scenario. Check that the graph looks like the following image:

Figure 73. Total FTE Requirements Graph Notional Data for Test 7.



5. *Graph: Required vs Available Personnel by Capability. Check that the graph looks like the following image when Force Support and Logistics are selected in the dropdown menu:

Figure 74. Required vs Available Force Support FTEs Graph Notional Data for Test 7.

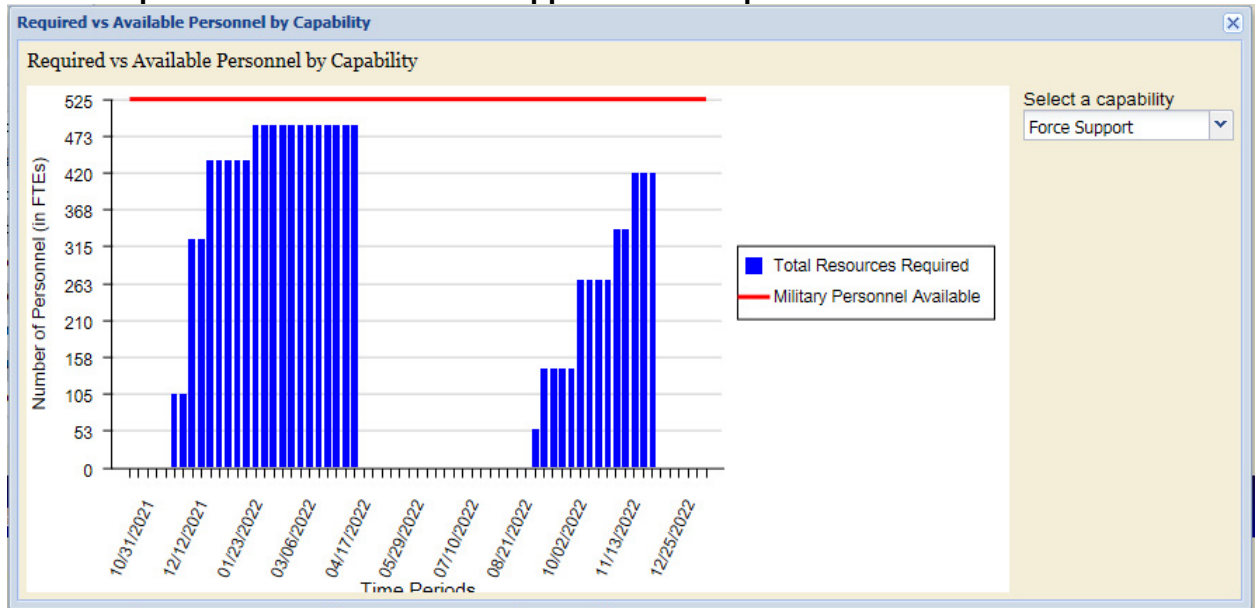
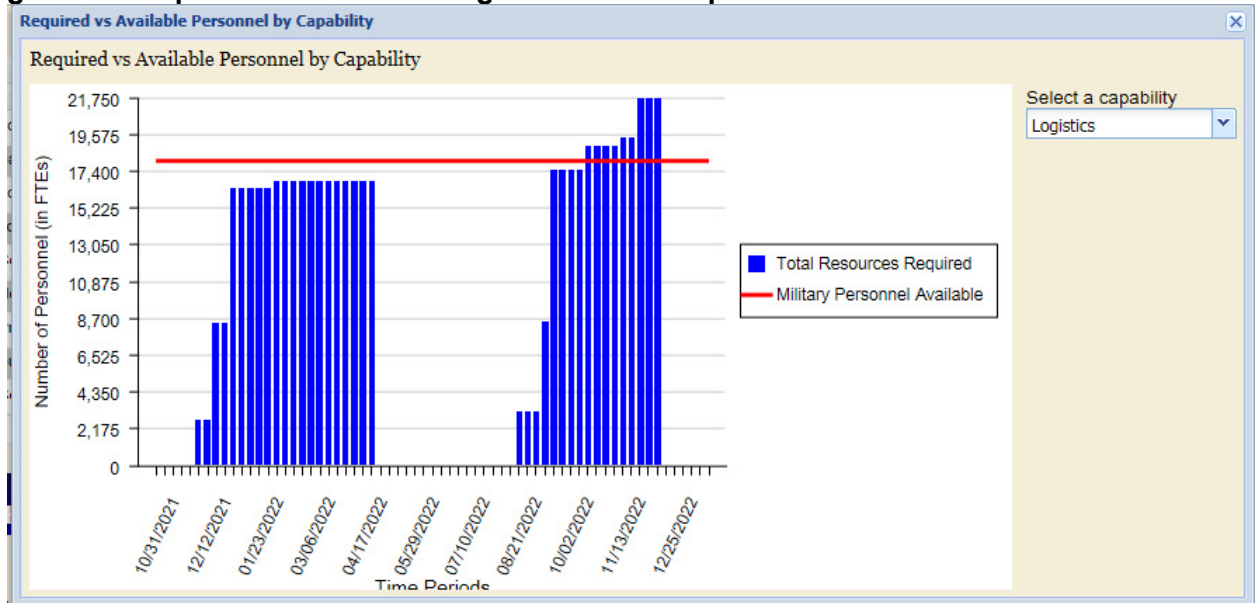


Figure 75. Required vs Available Logistics FTEs Graph Notional Data for Test 7.



6. Click "Continue" to move to the next tab.
7. Return to the previous tab.
8. *Check all of the values match the new values.
9. Go to the main page.
10. Return to your analysis and return to this tab.
11. *Check all of the values match the new values.
12. Log out of the application.
13. Log in as *analyst*.

14. Return to your analysis and return to this tab.
15. *Check all of the values match the new values.
16. *Check the “Allow Contractor Limits” box.
 - a. *Two columns should appear.
 - b. *Set the following values for the contractors:
 - c. *Check that the column and row sums are correct.

Figure 76. Contractor Manpower Availability Notional Data for Test 7.

JCA- Tier 1	Local Nation Contractors	3 rd -Country Contractors	Total
Force Support	10,000	10,000	
Battlespace Awareness	20,000	20,000	
Force Application	30,000	30,000	
Logistics	40,000	40,000	
Command and Control	5,000	5,000	
Net-Centric	6,000	6,000	
Protection	7,000	7,000	
Building Partnerships	800	800	
Corporate Mgmt & Spt	900	900	
Total	119,700	119,700	

17. Click “Continue” to move to the next tab.
18. Return to the previous tab.
19. *Check all of the values match the new values.
20. Go to the main page.
21. Return to your analysis and return to this tab.
22. *Check all of the values match the new values.
23. Log out of the application.
24. Log in as *analyst*.
25. Return to your analysis and return to this tab.
26. *Check all of the values match the new values.

Test 8: Policies & Guidance tab of new analysis

1. Go to the Policies & Guidance tab.
2. *Policy Selection:
 - a. *Expand the scenario folders in the table.
 - b. *Prussia – Austere:
 - i. Add policy “US Personnel Only” to Ft. Mitchell.
 - ii. *Check that the policy is added and that the Yes/No display updates.
 - c. *Zamunda – 100k:
 - i. *Check that there is no “Remove” button for the policy listed.
 - ii. Add policy “US Personnel Only” to Rhodes AFB.
 - iii. *Check that the policy is added and that the Yes/No display updates.
3. *For Prussia – Austere base Ft. Hope:
 - a. *Test 1
 - i. Add policies “Military only” and “US Personnel only” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining two policies at the same time.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.

- vi. *Check that the Yes/No display updates.
- b. ***Test 2**
 - i. Add policies “US Personnel only” and “No Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining two policies at the same time.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- c. ***Test 3**
 - i. Add policies “Military only” and “No Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining two policies at the same time.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- d. ***Test 4**
 - i. Add policies “Military only”, “US Personnel only” and “No Non-CAAF Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining policy.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- e. ***Test 5**
 - i. Add policies “Military only”, “US Personnel only” and “No Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining policy.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- f. ***Test 6**
 - i. Add policies “Military only”, “No Non-CAAF Contractors” and “No Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining policy.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- g. ***Test 7**
 - i. Add policies “US Personnel only”, “No Non-CAAF Contractors” and “No Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining policy.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- h. ***Test 8**
 - i. Add all four policies at one time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Remove all policies.

- iv. *Check that the Yes/No display updates.
- i. Add policy “No Non-CAAF Contractors” to Ft. Hope.
- j. *Check that the policy is added and that the Yes/No display updates.
4. *Available Policies: This is a view only table. Check that the table is not editable.
5. *Manpower Business Rules: This is a view only table. Check that the table is not editable.
6. Click “Continue” to move to the next tab.
7. Return to the previous tab.
8. *Check all of the values match the new values.
9. Go to the main page.
10. Return to your analysis and return to this tab.
11. *Check all of the values match the new values.
12. Log out of the application.
13. Log in as *analyst*.
14. Return to your analysis and return to this tab.
15. *Check all of the values match the new values.

Test 9: Risk in Using Non-Military Personnel tab of new analysis

1. Go to the Risk in Using Non-Military Personnel tab.
2. *Risk in Using Non-Military Personnel table:
 - a. *Expand the scenario folders in the table.
 - b. *Set each base to the following values:

Figure 77. New Analysis Risk Notional Data for Test 8.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Prussia – Austere						
Tazir AFB	Low	Low	Low	Medium	Low	Low
Ft. Mitchell	High	High	Extreme	High	High	Medium
Ft. Hope	Medium	Medium	Medium	High	High	Medium
Zamunda – 100k						
Rhodes AFB	Low	Low	Low	Low	Low	Low

3. Click “Continue: Run Analysis” to move to the next tab.
4. Return to the Analysis Inputs tab.
5. *Check that you are on the Risk in Using Non-Military Personnel tab.
6. *Check all of the values match the new values.
7. Go to the main page.
8. Return to your analysis and return to this tab.
9. *Check all of the values match the new values.
10. Log out of the application.
11. Log in as *analyst*.
12. Return to your analysis and return to this tab.
13. *Check all of the values match the new values.

Test 10: Run New Analysis and Check Results

1. Click “Continue: Run Analysis” to move to the next tab.
2. Click “Run Analysis”.
3. *Click “Stop” in the Analyzing package window.
4. *Check that the analysis has stopped running.
5. Click “Run Analysis”.
6. Perform a quick visual check of the Analysis Results tabs. Ensure that a graph is displayed.

- a. *Manpower Mix
 - b. *Budget Summary
 - c. *Assignments: Carefully look at this graph to ensure that the next three tabs don't produce the exact same graph.
 - d. *Assignments by Personnel Group: Check that this graph is different from the Assignments (tab 3) graph.
 - e. *Assignments by Capability: Check that this graph is different from the Assignments (tab 3) graph.
 - f. *Assignments by Scenario: Check that this graph is different from the Assignments (tab 3) graph.
 - g. *Analyses Comparison.
 - h. Return to the Assignments tab and change the dropdowns. Carefully look at this graph to ensure that the next three tabs don't produce the exact same graph.
 - i. *Assignments by Personnel Group: Check that this graph is different from the Assignments (tab 3) graph.
 - j. *Assignments by Capability: Check that this graph is different from the Assignments (tab 3) graph.
 - k. *Assignments by Scenario: Check that this graph is different from the Assignments (tab 3) graph.
7. Go to the Analysis Inputs tab. Check that all fields are not modifiable.
8. ***Go to the Scenario Selection tab.**
 - a. *Title
 - b. *Description
 - c. *Analysis Type
 - d. *Mission scenarios table (include/remove)
9. ***Go to the Budget & Costs tab.**
 - a. *Budgets (checkbox and table)
 - b. *Personnel costs (contractors)
10. ***Go to the Manpower Substitutions.**
 - a. *Manpower Substitution rules (contractors)
11. ***Go to the Manpower Requirements.**
 - a. *Summary Overview table (should never be modifiable)
 - b. *Requirements by Phase table (should never be modifiable)
 - c. *Additional Support Needs (planning factors)
12. ***Go to the Manpower Availability & Phase Durations tab.**
 - a. *Manpower Availability (checkbox and table)
 - b. *Phase Durations (start month, start year, durations)
13. ***Go to the Policies & Guidance tab.**
 - a. *Policy selection (should be no buttons in table)
 - b. *Available Policies (should never be modifiable)
 - c. *Manpower Business Rules (should never be modifiable)
14. ***Go to the Risk in Using Non-Military Personnel tab.**
 - a. *Risk in Using Non-Military Personnel table
 - b. *Click "Continue: Run Analysis". You should be taken to a graph results tab.
15. Return to the main page.
16. *Check that the status of the analysis is "Solved".
17. Select your analysis.
18. *From the Overview tab, click through all of the links. Check that the links go to the correct tabs.
 - a. *Scenario Selection
 - b. *Budget & Costs
 - c. *Manpower Substitutions

- d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
 - h. *Run Model – *should not go anywhere*
 - i. *Manpower Mix
 - j. *Budget Summary
 - k. *Assignments
 - l. *Assignments by Personnel Group
 - m. *Assignments by Capability
 - n. *Assignments by Scenario
 - o. *Analyses Comparison
19. Go to the Analysis Inputs tab. Check that all fields are not modifiable.
20. ***Go to the Scenario Selection tab.**
- a. *Title
 - b. *Description
 - c. *Analysis Type
 - d. *Mission scenarios table (include/remove)
21. ***Go to the Budget & Costs tab.**
- a. *Budgets (checkbox and table)
 - b. *Personnel costs (contractors)
22. ***Go to the Manpower Substitutions.**
- a. *Manpower Substitution rules (contractors)
23. ***Go to the Manpower Requirements.**
- a. *Summary Overview table (should never be modifiable)
 - b. *Requirements by Phase table (should never be modifiable)
 - c. *Additional Support Needs (planning factors)
24. ***Go to the Manpower Availability & Phase Durations tab.**
- a. *Manpower Availability (checkbox and table)
 - b. *Phase Durations (start month, start year, durations)
25. ***Go to the Policies & Guidance tab.**
- a. *Policy selection (should be no buttons in table)
 - b. *Available Policies (should never be modifiable)
 - c. *Manpower Business Rules (should never be modifiable)
26. ***Go to the Risk in Using Non-Military Personnel tab.**
- a. *Risk in Using Non-Military Personnel table
 - b. *Click “Continue: Run Analysis”. You should be taken to a graph results tab.

Test 11: Testing the work flow of a branched analysis

1. From the main page, find the analysis you created “<your name> New Analysis Test”.
2. Click “Branch”.
3. *Set the title as “<your name> Branch Workflow Test”.
4. *Set the description as “Testing the workflow of a branched analysis.”
5. Click “Continue” at the top of the page.
6. *Check that you get the error message, “Please ensure you have selected at least one scenario.”
7. Close the error message.
8. Click “Continue” at the bottom of the page.
9. *Check that you get the error message, “Please ensure you have selected at least one scenario.”
10. Close the error message.
11. Add any scenario to the analysis.
12. Click “Continue” at the top of the page.

13. *Use the “Continue” button at the TOP of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct sequential order.
 - a. *Budget & Costs
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel
14. Click “Continue: Run Analysis”.
15. *Check that you are on the Analysis Results page. All of its tabs should be grayed out.
16. Return to the Analysis Inputs tab.
17. *Check that you are on the Risk in Using Non-Military Personnel tab.
18. *Use the “Back” button at the TOP of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct (reverse) sequential order.
 - a. *Policies & Guidance
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Budget & Costs
 - f. *Scenario Selection
19. *Click on the banner and check that you return to the main page.
20. *Check that your analysis is in the table. It should have the correct title and have status “Initial”.
21. Click “Select” for your analysis.
22. *Use the “Continue” button at the BOTTOM of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct sequential order.
 - a. *Budget & Costs
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel
23. Click “Continue: Run Analysis”.
24. *Check that you are on the Analysis Results page. All of its tabs should be grayed out.
25. Return to the Analysis Inputs tab.
26. *Check that you are on the Risk in Using Non-Military Personnel tab.
27. *Use the “Back” button at the BOTTOM of each page to move through all of the Analysis Inputs tabs. Check that the tabs go in correct (reverse) sequential order.
 - a. *Policies & Guidance
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Budget & Costs
 - f. *Scenario Selection
28. *Click the “Home” link at the top of the screen and check that you return to the main page.
29. Return to your analysis.
30. *From the Analysis Inputs tab, click through all of the tabs. Check that the correct page is displayed.
 - a. *Scenario Selection
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements

- e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
31. *From the Analysis Results tab, check that all of its tabs are grayed out.
32. *From the Overview tab, click through all of the links. Check that the links go to the correct tabs.
- a. *Scenario Selection
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
 - h. *Run Model – should not be active link
 - i. *Analysis results – “The analysis has not been run, so no results are available”.
33. *From the Analysis Inputs tab, click on each tab. From each tab, click on the Page Contents links and “Back to Top” buttons to ensure they work.
- a. *Budget & Costs
 - b. *Manpower Substitutions
 - c. *Manpower Requirements
 - d. *Manpower Availability & Phase Durations
 - e. *Policies & Guidance
 - f. *Risk in Using Non-Military Personnel

Test 12: Scenario Selection tab of branched uncertainty analysis

1. Start from the main page.
2. Go to the analysis created in Test 11.
3. *Check that the title and description are correct.
4. *Change the title to “<your name> New Branch Analysis Test”.
5. *Add to the description, “Smaller humanitarian effort and budget constraints.”
6. Under Analysis Type, select “Uncertainty of the duration of Phases 3, 4, & 5”.
7. *Remove all scenarios from the analysis.
8. Click “Continue”.
9. *Check that you get the error message, “Please ensure you have selected at least one scenario.”
10. Close the error message.
11. *Add “Prussia – Austere” and “Zamunda – 50k” to the analysis.
12. Click “Continue”.
13. Click “Back”.
14. *Check that the title and description match the new values entered in step 4 and 5.
15. *Check that the two scenarios are still in the table.
16. Go to the main page of the tool.
17. Return to your analysis.
18. *Check that the two scenarios are still in the Included Scenarios table.
19. Log out of the tool.
20. Log in as *analyst*.
21. *Check that the title of your analysis matches your new title.
22. Return to your analysis.
23. *Check that the title and description match the new values entered in step 4 and 5.
24. *Check that the two scenarios are still in the Included Scenarios table.

Test 13: Budget & Cost tab of branched uncertainty analysis

1. Go to the Budget & Costs tab.

2. *Budget table: Enter the following values:

Figure 78. Branch Analysis Budget Notional Data for Test 13.

Fiscal Year	Annual Budget (in thousands)
FY2017	\$10,000,000
FY2018	\$10,000,000
FY2019	\$15,000,000
FY2020	\$15,000,000
FY2021	\$15,000,000

3. *Personnel Costs table:
 - a. *Check that costs for US personnel groups are not editable.
 - b. *Set the following values for the scenarios:

Figure 79. Branch Analysis Personnel Costs Notional Data for Test 13.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
Prussia – Austere	\$93	\$65
Zamunda – 50k	\$59	\$30

4. Click “Continue” to move to the next tab.
5. Return to the previous tab.
6. *Check all of the values match the new values.
7. Go to the main page.
8. Return to your analysis and return to this tab.
9. *Check all of the values match the new values.
10. Log out of the application.
11. Log in as *analyst*.
12. Return to your analysis and return to this tab.
13. *Check all of the values match the new values.
14. *Budget table: Check the “No budget constraints” box.
 - a. *The table should gray out.
 - b. *Check that the table is not editable.
15. Click “Continue” to move to the next tab.
16. Return to the previous tab.
17. *Check that the budget table is grayed out.
18. Go to the main page.
19. Return to your analysis and return to this tab.
20. *Check that the budget table is grayed out.
21. *Uncheck the budget constraints to make the table active. The values previously entered in step 25 should still be in the table.

Test 14: Manpower Substitutions & Manpower Requirements tab of branched uncertainty analysis

1. Go to the Manpower Substitutions tab.
2. *Manpower Substitution Rules table:
 - a. *Check that the percentages for US personnel groups are not editable.

- b. *Set the following values for the scenarios:

Figure 80. Branch Analysis Substitution Rules Notional Data for Test 14.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
Prussia – Austere (War)	85%	75%
Zamunda – 50k	75%	65%

3. Go to the Manpower Requirements tab.
4. *Summary Overview table:
 - a. *This is a view only table. Check that no part of the table is editable.
 - b. *Close and expand the folders. Ensure that the bases and their values display properly.
 - i. *Prussia – Austere: Tazir AFB, Ft. Mitchell, Ft. Hope
 - ii. *Zamunda – 50k: Rhodes AFB
5. *Requirements by Phase table:
 - c. *This is a view only table. Check that no part of the table is editable.
 - d. *Select each base for each scenario. Ensure that the bases and their values display properly.
 - iii. *Prussia – Austere:
 - a. Tazir AFB
 - b. Ft. Mitchell
 - c. Ft. Hope
 - iv. *Zamunda – 50k
 - a. Rhodes AFB
6. *Additional Support Needs table: Set all Planning Factors values to the percentages listed below for each base. Check that the values in the table underneath update.

Figure 81. Branch Analysis Planning Factors Notional Data for Test 14.

	Base	Planning Factors
1	Tazir AFB	14%
2	Ft. Mitchell	57%
3	Ft. Hope	40%
4	Rhodes AFB	25%

7. Click “Continue” to move to the next tab.
8. Return to the previous tab.
9. *Check all of the values match the new values.
10. Go to the main page.
11. Return to your analysis and return to this tab.
12. *Check all of the values match the new values.
13. Log out of the application.
14. Log in as *analyst*.
15. Return to your analysis and return to this tab.
16. *Check all of the values match the new values.

Test 15: Manpower Availability & Phase Durations tab of branched uncertainty analysis

1. Go to the Manpower Availability & Phase Durations tab.
2. *Manpower Availability table:

- a. *Uncheck the “Allow Contractor Limits” box. The two contractor columns should disappear.
- b. *Enter the following values in the table.
- c. *Ensure the totals are correct.

Figure 82. Branch Analysis Manpower Availability Notional Data for Test 15.

JCA- Tier 1	Military - Active	Military - Reserve	DoD Civilians	Total
Force Support	425	150	50	625
Battlespace Awareness	2,100	250	200	2,550
Force Application	51,100	54,100	10	105,210
Logistics	5,000	5,000	5,000	15,000
Command and Control	575	525	225	1,325
Net-Centric	525	400	50	975
Protection	10,000	3,000	1,000	14,000
Building Partnerships	300	100	100	500
Corporate Mgmt & Spt	500	200	300	1,000
Total	70,525	63,725	6,935	141,185

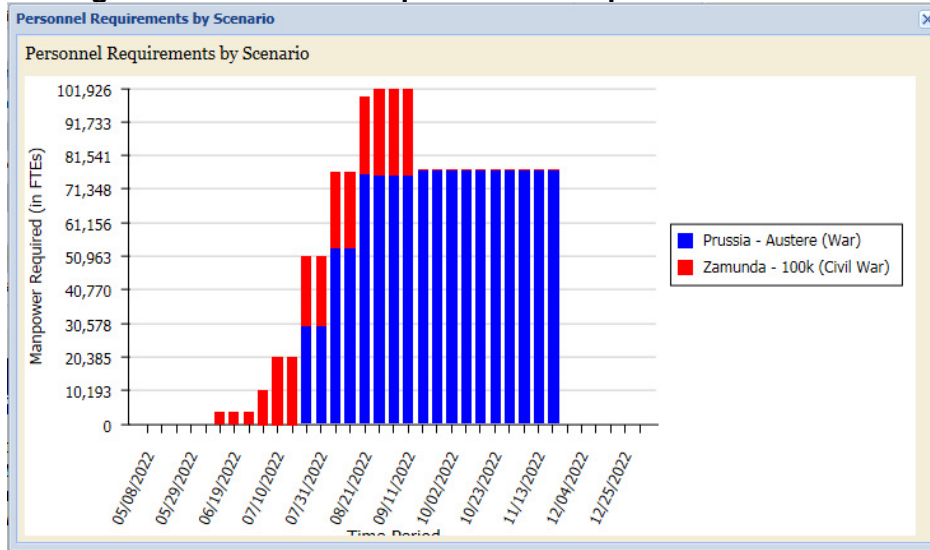
3. *Phase Durations table:
 - a. *Set the start date and phase durations to the following values.

Figure 83. Branch Analysis Phase Durations Notional Data for Test 15.

Scenario	Start Date	FY	0	1	2	3-	3+	4-	4+	5-	5+
Prussia – Austere (War)	2022-07-24	2022	0	2	2	4	6	3	4	7	9
Zamunda –50k	2022-06-12	2022	3	1	4	2	3	1	3	3	5

4. *Graph: Total Personnel Requirements by Scenario. Check that the graph looks like the following image:

Figure 84. Total FTE Requirements Graph Notional Data for Test 15.



5. *Graph: Required vs Available Personnel by Capability. Check that the graph looks like the following image when Force Support and Logistics are selected in the dropdown menu:

Figure 85. Required vs Available Force Support FTEs Graph Notional Data for Test 15.

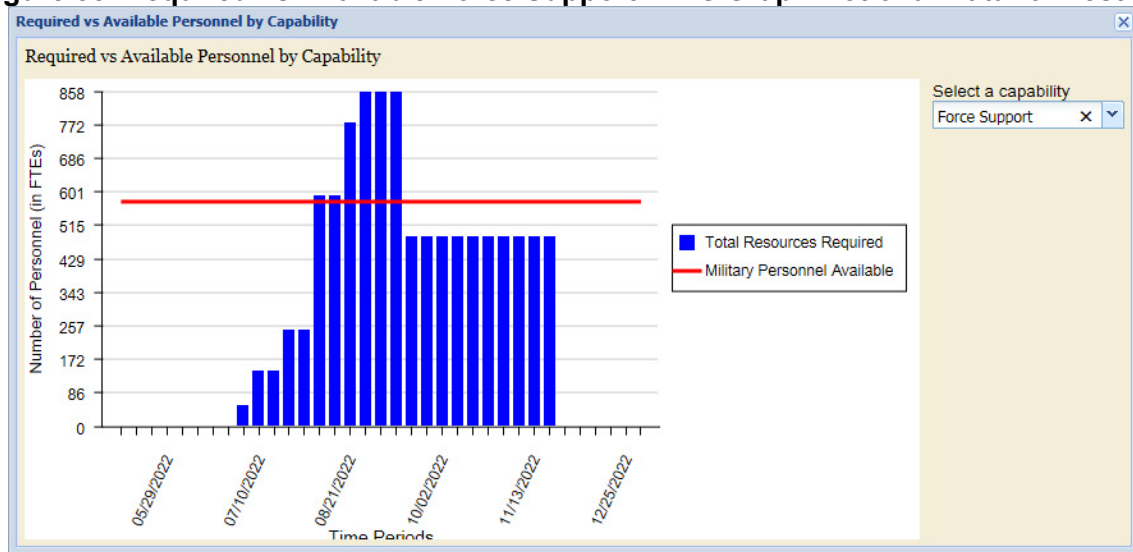
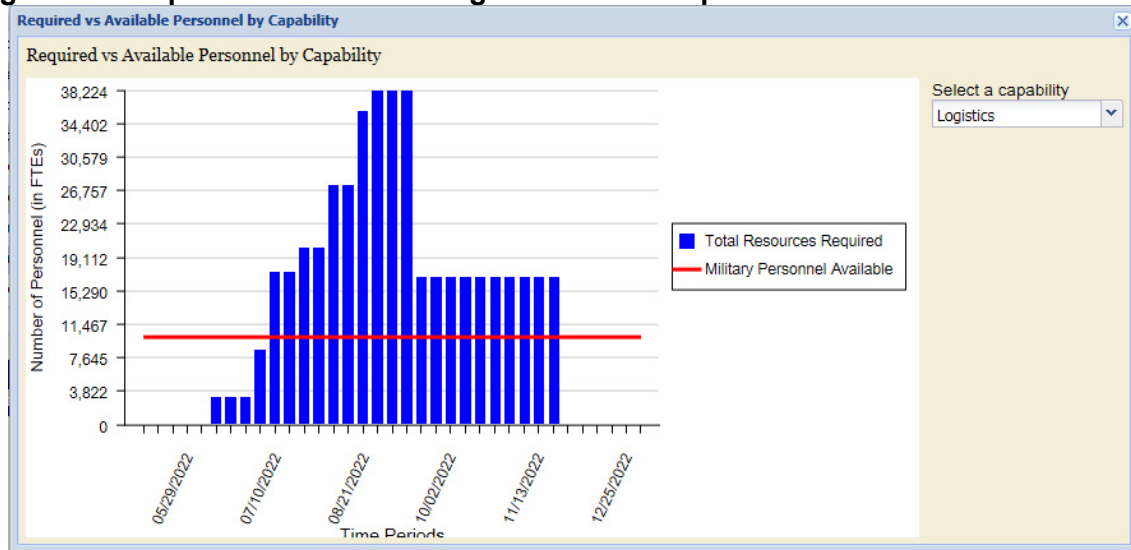


Figure 86. Required vs Available Logistics FTEs Graph Notional Data for Test 15.



6. Click "Continue" to move to the next tab.
7. Return to the previous tab.
8. *Check all of the values match the new values.
9. Go to the main page.
10. Return to your analysis and return to this tab.
11. *Check all of the values match the new values.
12. Log out of the application.
13. Log in as *analyst*.
14. Return to your analysis and return to this tab.
15. *Check all of the values match the new values.
16. *Check the "Allow Contractor Limits" box.
 - a. *Two columns should appear.

- b. *Set the following values for the contractors:
- c. *Check that the column and row sums are correct.

Figure 87. Branch Analysis Contractor Availability Notional Data for Test 15.

JCA- Tier 1	Local Nation Contractors	3 rd -Country Contractors	Total
Force Support	10,100	10,100	
Battlespace Awareness	20,200	20,200	
Force Application	30,300	30,300	
Logistics	40,400	40,400	
Command and Control	5,050	5,050	
Net-Centric	6,060	6,060	
Protection	7,070	7,070	
Building Partnerships	2,000	2,000	
Corporate Mgmt & Spt	300	300	
Total	121,480	121,480	

17. Click “Continue” to move to the next tab.
18. Return to the previous tab.
19. *Check all of the values match the new values.
20. Go to the main page.
21. Return to your analysis and return to this tab.
22. *Check all of the values match the new values.
23. Log out of the application.
24. Log in as *analyst*.
25. Return to your analysis and return to this tab.
26. *Check all of the values match the new values.

Test 16: Policies & Guidance tab of branched uncertainty analysis

1. Go to the Policies & Guidance tab.
2. *Policy Selection:
 - a. *Expand the scenario folders in the table.
 - b. *Prussia – Austere:
 - i. Check that Tazir AFB has policy “All Personnel Groups”.
 - ii. Check that Ft. Mitchell has policy “US Personnel Only”.
 - iii. Check that Ft. Hope has policy “No Non-CAAF Contractors”.
 - iv. Remove Ft. Mitchell’s policy.
 - v. *Check that the policy is added and that the Yes/No display updates.
 - c. *Zamunda – 50k:
 - i. *Check that there is no “Remove” button for the policy “No Non-CAAF Contractors”.
3. *For Prussia – Austere base Ft. Mitchell:
 - a. ~~*Test 1~~
 - i. ~~Add policies “Military only” and “US Personnel only” at the same time.~~
 - ii. ~~*Check that the policies are added and that the Yes/No display updates.~~
 - iii. ~~Add the remaining two policies at the same time.~~
 - iv. ~~*Check that the policies are added and that the Yes/No display updates.~~
 - v. ~~Remove all policies.~~
 - vi. ~~*Check that the Yes/No display updates.~~
 - b. ~~*Test 2~~

- ~~i. Add policies “US Personnel only” and “No Contractors” at the same time.~~
 - ~~ii. *Check that the policies are added and that the Yes/No display updates.~~
 - ~~iii. Add the remaining two policies at the same time.~~
 - ~~iv. *Check that the policies are added and that the Yes/No display updates.~~
 - ~~v. Remove all policies.~~
 - ~~vi. *Check that the Yes/No display updates.~~
- c. ***Test 3**
 - i. Add policies “Military only” and “No Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining two policies at the same time.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- d. ***Test 4**
 - i. Add policies “Military only”, “US Personnel only” and “No Non-CAAF Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining policy.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- e. ***Test 5**
 - ~~i. Add policies “Military only”, “US Personnel only” and “No Contractors” at the same time.~~
 - ~~ii. *Check that the policies are added and that the Yes/No display updates.~~
 - ~~iii. Add the remaining policy.~~
 - ~~iv. *Check that the policies are added and that the Yes/No display updates.~~
 - ~~v. Remove all policies.~~
 - ~~vi. *Check that the Yes/No display updates.~~
- f. ***Test 6**
 - ~~i. Add policies “Military only”, “No Non-CAAF Contractors” and “No Contractors” at the same time.~~
 - ~~ii. *Check that the policies are added and that the Yes/No display updates.~~
 - ~~iii. Add the remaining policy.~~
 - ~~iv. *Check that the policies are added and that the Yes/No display updates.~~
 - ~~v. Remove all policies.~~
 - ~~vi. *Check that the Yes/No display updates.~~
- g. ***Test 7**
 - i. Add policies “US Personnel only”, “No Non-CAAF Contractors” and “No Contractors” at the same time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Add the remaining policy.
 - iv. *Check that the policies are added and that the Yes/No display updates.
 - v. Remove all policies.
 - vi. *Check that the Yes/No display updates.
- h. ***Test 8**
 - i. Add all four policies at one time.
 - ii. *Check that the policies are added and that the Yes/No display updates.
 - iii. Remove all policies.
 - iv. *Check that the Yes/No display updates.
- i. Add policy “No Contractors” to Ft. Mitchell.

- j. *Check that the policy is added and that the Yes/No display updates.
4. *Available Policies: This is a view only table. Check that the table is not editable.
5. *Manpower Business Rules: This is a view only table. Check that the table is not editable.
6. Click “Continue” to move to the next tab.
7. Return to the previous tab.
8. *Check all of the values match the new values.
9. Go to the main page.
10. Return to your analysis and return to this tab.
11. *Check all of the values match the new values.
12. Log out of the application.
13. Log in as *analyst*.
14. Return to your analysis and return to this tab.
15. *Check all of the values match the new values.

Test 17: Risk in Using Non-Military Personnel tab of branched uncertainty analysis

1. Go to the Risk in Using Non-Military Personnel tab.
2. *Risk in Using Non-Military Personnel table:
 - a. *Expand the scenario folders in the table.
 - b. *Set each base to the following values:

Figure 88. Branch Analysis Contractor Risk Notional Data for Test 17.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Prussia – Austere						
Tazir AFB	Low	Low	Low	Medium	Low	Low
Ft. Mitchell	High	High	Extreme	High	High	Medium
Ft. Hope	Low	Low	Medium	High	Medium	Low
Zamunda – 50k						
Rhodes AFB	Low	Low	Low	Low	Low	Low

3. Click “Continue: Run Analysis” to move to the next tab.
4. Return to the Analysis Inputs tab.
5. *Check that you are on the Risk in Using Non-Military Personnel tab.
6. *Check all of the values match the new values.
7. Go to the main page.
8. Return to your analysis and return to this tab.
9. *Check all of the values match the new values.
10. Log out of the application.
11. Log in as *analyst*.
12. Return to your analysis and return to this tab.
13. *Check all of the values match the new values.

Test 18: Run Branched Uncertainty Analysis and Check Results

14. Click “Continue: Run Analysis” to move to the next tab.
15. Click “Run Analysis”.
16. *Click “Stop” in the Analyzing package window.
17. *Check that the analysis has stopped running.
18. Click “Run Analysis”.
19. Perform a quick visual check of the Analysis Results tabs. Ensure that a graph is displayed.
 - a. *Total Assignments: Carefully look at this graph to ensure that the next three tabs don’t produce the exact same graph.

- b. *Assignments by Personnel Group: Check that this graph is different from the tab 1 graph.
 - c. *Assignments by Capability: Check that this graph is different from the tab 1 graph.
 - d. *Assignments by Personnel Group and Capability: Check that this graph is different from the tab 1 graph.
 - e. *Budget Summary
 - f. *Overages
 - g. Return to the Assignments by Personnel Group tab and change the dropdowns. Carefully look at this graph to ensure that the next two tabs don't produce the exact same graph as Assignments by Personnel Group.
 - h. *Assignments by Personnel Group: Check that this graph is different from the tab 1 graph.
 - i. *Assignments by Capability: Check that this graph is different from the tab 1 graph.
 - j. *Assignments by Personnel Group and Capability: Check that this graph is different from the tab 1 graph.
20. Return to the main page.
 21. *Check that the status of the analysis is "Solved".
 22. Select your analysis.
 23. *From the Overview tab, click through all of the links. Check that the links go to the correct tabs.
 - a. *Scenario Selection
 - b. *Budget & Costs
 - c. *Manpower Substitutions
 - d. *Manpower Requirements
 - e. *Manpower Availability & Phase Durations
 - f. *Policies & Guidance
 - g. *Risk in Using Non-Military Personnel
 - h. *Run Model – *should not go anywhere*
 - i. *Total Assignments
 - j. *Assignments by Personnel Group
 - k. *Assignments by Capability
 - l. *Assignments by Personnel Group and Capability
 - m. *Budget Summary
 - n. *Overages

Test 19: Normal Analysis End to End Test

1. From the main page, find the baseline created during Planning Manager testing (created in test 3).
2. Click "Start New Analysis".
3. *Set the title as "<your name> Normal End to End Test".
4. *Set the description as "End to end testing of a normal analysis."
5. *Add "New Granada v1" and "Zamunda – 100k v1" to the analysis.
6. Click "Continue".

Budget & Costs

7. *Budget table: Enter the following values:

Figure 89. End to End Test Analysis Budget Notional Data for Test 19.

Fiscal Year	Annual Budget (in thousands)
FY2020	\$0
FY2021	\$4,000,000
FY2022	\$0

FY2023	\$0
FY2024	\$0

8. *Personnel Costs table:
 - a. *Set the following values for the scenarios:

Figure 90. End to End Test Analysis Contractor Costs Notional Data for Test 19.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada v1	\$68	\$44
Zamunda – 100k v1	\$60	\$32

- b. The other costs should be these values. If these do not match, these values will have to be updated through the Admin screen.

Figure 91. End to End Test Analysis Personnel Costs Notional Data for Test 19.

Mission Scenario	Military - Active	Military - Reserve	DoD Civilians	U.S. Contractors
New Granada v1	\$120	\$140	\$150	\$232
Zamunda – 100k v1	\$120	\$140	\$150	\$232

9. Click “Continue”.

Manpower Substitutions

10. Manpower Substitution Rules table: No changes. The values should be:

Figure 92. End to End Test Analysis Substitution Rules Notional Data for Test 19.

Mission Scenario	3 rd -Country Contractors	Local Nation Contractors
New Granada v1	85%	70%
Zamunda – 100k v1	85%	60%

Manpower Requirements

11. Additional Support Needs table: No changes
12. Click “Continue”.

Manpower Availability & Phase Durations

13. *Manpower Availability table:
 - a. *Check the “Allow Contractor Limits” box. The two contractor columns should appear.
 - b. *Enter the following values in the table.
 - c. *Ensure the totals are correct.

Figure 93. End to End Test Analysis Manpower Availability Notional Data for Test 19.

JCA- Tier 1	Military - Active	Military - Reserve	DoD Civilians
Force Support	350	100	50
Battlespace Awareness	2,000	500	100
Force Application	50,000	50,000	0
Logistics	10,000	7,500	900
Command and Control	500	500	100
Net-Centric	500	400	75
Protection	10,000	5,000	0

Building Partnerships	500	0	50
Corporate Mgmt & Spt	750	250	100
Total	74,600	64,250	1,375
JCA- Tier 1	Local Nation Contractors	3 rd -Country Contractors	Total
Force Support	150,000	150,000	300,500
Battlespace Awareness	150,000	150,000	302,600
Force Application	150,000	150,000	400,000
Logistics	150,000	150,000	318,400
Command and Control	150,000	150,000	301,100
Net-Centric	150,000	800	151,775
Protection	150,000	150,000	315,000
Building Partnerships	150,000	150,000	300,550
Corporate Mgmt & Spt	150,000	150,000	301,100
Total	1,350,000	1,200,800	

14. *Phase Durations table:

- a. *Set the start date and phase durations to the following values.

Figure 94. End to End Test Analysis Phase Durations Notional Data for Test 19.

Scenario	Start Date / FY		0	1	2	3	4	5
New Granada v1	2021-03-21	2021	1	3	3	3	3	8
Zamunda – 100k v1	2021-05-16	2021	0	0	1	2	2	2

15. Click “Continue”.

Policies & Guidance

16. *Policy Selection:

- *Expand the scenario folders in the table.
- *New Granada v1:
 - Add policy “No Non-CAAF Contractors” to Iberia AFB.
 - Add policy “No Non-CAAF Contractors” to Ft. Nasrid.
 - *Check that the policy is added and that the Yes/No display updates.
- *Zamunda – 100k v1:
 - *Check that there is no “Remove” button for the policy listed.
 - Add policy “US Personnel Only” to Rhodes AFB.
 - *Check that the policy is added and that the Yes/No display updates.

17. Click “Continue”.

Risk in Using Non-Military Personnel

18. *Risk in Using Non-Military Personnel table:

- *Expand the scenario folders in the table.
- *Set each base to the following values:

Figure 95. End to End Test Analysis Contractor Risk Notional Data for Test 19.

Mission Scenario	Phase 0	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
New Granada v1						
Iberia AFB	Medium	Medium	Medium	Medium	Medium	Low
Ft. Nasrid	Medium	Medium	High	High	Medium	Low
Zamunda – 100k v1						
Rhodes AFB	Low	Low	Medium	Medium	Medium	Low

19. Click “Continue: Run Analysis” to move to the next tab.
20. Click “Run Analysis”.
21. Once the analysis is solved, switch to the testing worksheet to check that all the values displayed in the Analysis Results graphs match the values in the worksheet. These tabs will be where you record the results. Apply the color coding rules listed in the Key on each page. For example, correct cells should be colored green, incorrect cells should be color red, etc.
22. *Note if there are any incorrect values found for each graph:
 - a. *Manpower Mix – check all values
 - b. *Annex W tab 1 – check all values
 - c. *Annex W tab 2 – check all values
 - d. *Annex W tab 3 – check all values
 - e. *Budget Summary – check all values
 - f. *Assignments – only check green-highlighted rows
 - g. *Assignments by Personnel Group – only check green-highlighted rows
 - h. *Assignments by Capability – only check green-highlighted rows
 - i. *Assignments by Scenario – only check green-highlighted rows
 - j. *Analyses Comparison – check all values

Test 20: Uncertainty Analysis End to End Test

This test is comparing vetted results in analysis 280 to ensure that results are displayed correctly through the tool. A true end to end test, like in Test 19, is not possible due the nature of how the uncertainty analyses are implemented. Results will always be inconsistent, making it difficult to produce a set of results to compare against.

1. From the main page, find Baseline 3 *FY 2012 Q1 Baseline*.
2. Locate analysis 280.
3. Open analysis 280 and go to the results tab.
4. Compare the results to the values found in the testing worksheet to check that all the values displayed in the Analysis Results graphs match the values in the worksheet. These tabs will be where you record the results. Apply the color coding rules listed in the Key on each page. For example, correct cells should be colored green, incorrect cells should be color red, etc.
5. *Note if there are any incorrect values found for each graph:
 - a. *Total Assignments – only check green-highlighted rows
 - b. *Assignments by Personnel Group – only check green-highlighted rows
 - c. *Assignments by Capability – only check green-highlighted rows
 - d. *Assignments by Personnel Group and Capability – only check green-highlighted rows
 - e. *Budget Summary – check all values
 - f. *Overages – only check green-highlighted rows

Test 21: Check User Manual

1. Locate and click on the Help link.
2. *A new browser window or tab will open.
3. *Check that you are looking at the User Manual (refer to title) for release 2.3.
4. *Scroll through document and ensure all images display. Check that there are no “missing images” icons. Check that all Figures and Tables have a related image.
5. *Check that the headers and text is left justified.
6. *There should be six main sections:
 - a. *Nomenclature
 - b. *1. Introduction
 - c. *2. Planning Manager
 - d. *3. Analyst Activities

- e. *4. Administrator
 - f. *References
- 7. Go to the Contents section at the top of the page.
- 8. *Click on Nomenclature and check that it goes to that section.
- 9. *Randomly select 2 links in the four main sections and make sure they anchor to the corresponding location of the page.
 - a. *1. Introduction
 - b. *2. Planning Manager
 - c. *3. Analyst Activities
 - d. *4. Administrator
- 10. *Click on References and check that it goes to that section.
- 11. *Randomly select 2 links in the Figures section and make sure they anchor to the corresponding location of the page. These will anchor on the Figure title – you will have to scroll up to view the image.
- 12. *Randomly select 2 links in the Tables section and make sure they anchor to the corresponding location of the page.

Test 22: Check Quick Start Guide

- 1. Locate and click on the Quick Start link.
- 2. *A new browser window or tab will open.
- 3. *Check that you are looking at the Quick Start Guide (refer to title) for release 2.3.
- 4. *Scroll through document and ensure all images display. Check that there are no “missing images” icons. Check that all Figures and Tables have a related image.
- 5. *Check that the headers and text is left justified.
- 6. *There should be six main sections:
 - g. *Nomenclature
 - h. *1. Introduction
 - i. *2. Planning Manager
 - j. *3. Analyst Activities
 - k. *4. Administrator
 - l. *References
- 7. Go to the Contents section at the top of the page.
- 8. *Click on Nomenclature and check that it goes to that section.
- 9. *Randomly select 2 links in the four main sections and make sure they anchor to the corresponding location of the page.
 - i. *1. Introduction
 - j. *2. Planning Manager
 - k. *3. Analyst Activities
 - l. *4. Administrator
- 10. *Click on References and check that it goes to that section.

Test 23: Check Bug Report/Feature Request Form

- 1. Locate and click on the Bug Report/Feature Request link.
- 2. *A new browser window or tab will open.
- 3. *Check that you are looking at the Bug Report/Feature Request (refer to title).
- 4. *Fill out a bug report or feature request.
- 5. Click Send.
- 6. *The information you filled out should appear in the generated text.

Test 24: Check Government Use Notice

1. Locate and click on the Government Use Notice link.
2. *A new window will open.
3. *Check that the GUN text appears:
 - c. Notice: This computer software was prepared by Sandia Corporation, hereinafter the Contractor, under Contract DE-AC04-94AL85000 with the Department of Energy (DOE). All rights in the computer software are reserved by DOE on behalf of the United States Government and the Contractor as provided in the Contract. You are authorized to use this computer software for Governmental purposes but it is not to be released or distributed to the public. NEITHER THE U.S. GOVERNMENT NOR THE CONTRACTOR MAKES ANY WARRANTY, EXPRESS OR IMPLIED, OR ASSUMES ANY LIABILITY FOR THE USE OF THIS SOFTWARE. This notice including this sentence must appear on any copies of this computer software.
4. *Close the GUN window.

4. UNIT TESTING

The Contingency Contractor Optimization Tool – Prototype (CCOT-P) unit tests take test problems with known solutions, run them through the solver, and verify the calculated solutions match. The goal is to run through all of the steps a user would for running an analysis, without the UI or user interaction. The same Java methods, Hibernate objects, and database interactions are used. However, instead of using the actual project database, a memory-resident database (H2) is created for the duration of the test. The sequence of events is as follows:

- Input and parameter database tables are populated with necessary model inputs from an Excel spreadsheet.
- An input matrix is formed from these inputs and parameters.
- The solver is invoked with the input matrix.
- The solution is received from the solver and written to output database tables.
- The content of the output tables is verified against our known solutions.

These steps are identical to those used during a user-initiated analysis, except done without the UI, and using a temporary memory-resident database.

REFERENCES

- [1] K.L. Adair, J.F. Bouchard, R.J. Detry, J. D. Durfee, K.A. Jones, N. Martin, A. Bandlow, J. Turgeon, "Contingency Contractor Optimization, Phase 3, Verification & Validation Plan, Contingency Contractor Optimization Tool - Prototype," Sandia National Laboratories, October 2013.

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